

**The Impact of Social Media on Customer Decision  
Journey and the Implications of Customer Research  
Activities in the Front-end of New Product  
Development: A Study in the Infant Diaper Market in  
China**

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## **ABSTRACT**

This study focuses on investigating how social media (SM) impacts customers' product purchase decision making process, and how fast-moving consumer goods (FMCG) companies should react to the new SM-driven customer decision journey (CDJ) to consolidate their market performance.

Thanks to the accessibility and convenience of communications on SM, customers extensively exchange information through SM in their CDJ. In this situation, customers are empowered by the peer-shared product information. They can learn about the quality of the products from other individuals' usage experience, which is independent from brands' or retailers' commercial interests. Therefore, customers can make informed decision of which product to select. This phenomenon is especially prominent in the Chinese market. However, there is a lack of attempts to model Chinese customers' SM-driven CDJ. In this situation, scholars also argue that brands are disempowered by SM and SM-driven CDJ, as they lost control of messaging and channels to market their offering to potential customers. Therefore, researchers and business practitioners have been conducting extensive investigations of how businesses can enhance their marketing practices (rear-end of innovation activities) on SM.

A limited number of studies also suggest that the SM-driven CDJ also provided opportunities for businesses to enhance their front-end of innovation (FEI) activities, in which they develop new product ideas. In the SM-driven CDJ, customers leave traces about their product needs on SM platforms through posting product reviews. Potentially, businesses could use customer needs information embedded in product reviews that are shared by customers publicly on SM to inform their FEI activities. However, there are only a small number of academic studies focused on this domain. To address this knowledge gap, this study aims at the exploration, description, and explanation of how the FEI can potentially benefit from the SM-driven CDJ.

Building upon theoretical propositions synthesized from literature reviews mainly in SM, consumer decision making, and FEI domains, this research endeavours to develop an in-depth understanding of a group of Chinese customers' SM-driven CDJ through a series of focus groups studies. It also investigates how might businesses identify customer needs through collecting and analysing customer-created product reviews on SM platforms by conducting SM text-mining studies.

The findings contributed new academic knowledge and managerial suggestions. The first contribution is the construction of two SM-driven CDJs of FMCG customers in China. It is one of the first attempts to provide in-depth and detailed insights about how SM affect customers' decision making behaviour. The findings also provide evidences that businesses can addresses market challenges caused by the SM-driven CDJ from the FEI perspective, instead of the market launch perspective. It directly addressed a knowledge gap defined by a small group of scholars and the literature of this study. It offered business practitioner actionable recommendations. Finally, the study documented a real-life business case in an emerging research field. As the research domain is nascent and few industrial observations have been documented, this study added valuable empirical knowledge with both academic and practical recommendations.

**Keywords:**

Social Media, Customer Decision Journey, Social Media-Driven Customer Decision Journey, Customer Decision Making Process, Front-end of Innovation, New Product Development, Customer Needs, Focus Groups, Social Media Text-mining, Product Reviews

# 1 INTRODUCTION

The first chapter of the thesis introduces the rationale and the focus of the study. It first introduces the social and academic contexts that this study was established on. The establishment of research context then allowed the knowledge gaps to emerge, which provided to the definition of research focuses. Thirdly, it pinpoints the aims (focuses) and objectives of the study, while highlighting the research questions. The last part outlines the structure of the thesis with a brief introduction of each Chapter.

## 1.1 Research Contexts

### 1.1.1 The market context - Chinese customers' reliance on social media

Literatures and market reports have been highlighting Chinese customers' reliance on social media (SM) in recent years (McKinsey China, 2012, Wang, *et al.*, 2012, Wong, 2013, Yang, 2013, Bain & Company and Kantar Worldpanel, 2014, Grace, 2015, Flemming, 2016, W. Spelich, 2017). At the moment of framing this research, existing studies demonstrated that the adoption of SM had fundamentally changed how customers acquire information for purchase decision making (Wang, *et al.*, 2012). Contemporary customers at that moment tended to consider communications with peers or information left by peers on SM platforms as the primary information source that assisted their product selection (Wang, *et al.*, 2012; Kozinets, *et al.*, 2010; Kaplan and Haenlein, 2010). This trend had been prominently observed among Chinese customers (Market Me China, 2014; McKinsey China, 2012). More than those who were from the rest of the world, Chinese customers assigned higher credibility to the peer-shared product reviews or recommendations than those published by institutions (McKinsey China, 2012; Stein, 2014). It was probably due to a series of product scandals that revealed a considerable number of producers' and retailers' dishonesty (Chen, 2009; McKinsey China, 2012). Chinese customers have also demonstrated a great level of motivation to share personal product opinions and experiences to peers through SM (Wong, 2013). As SM enabled customers to acquire the more trustworthy peer opinions as well as to influence peers by providing their personal thoughts and experiences, Chinese customers were empowered by SM (Accenture, 2015; Grace, 2015; Labrecque, *et al.*, 2013). In this situation, the traditional approaches that businesses employed to influence customers were no longer effective (Kaplan and Haenlein, 2010; Accenture, 2015). To establish new strategies to respond to the customer behavioural change and attract customers was crucial for consumer products companies, especially in China

(Kaplan and Haenlein, 2010; Bain & Company and Kantar Worldpanel, 2014; Edelman and Singer, 2015). This new requirement of businesses inspired the formation of this study.

### **1.1.2 The industry context – the fast-growing and competitive baby diaper sector in China**

In recent years, the baby diaper market in China has been booming and become overtly competitive (Research and Markets, 2014). In 2015, the consumption of baby diaper products in China reached 4 billion US dollars (54.3 billion USD globally), and is predicted to reach 7 billion USD by 2020 with an over 10% growth rate thanks to rapid urbanisation and strong consumer confidence in the past decade (Research in China, 2016; Nielsen, 2015). Whilst the market penetration rate of diaper product has reached 90% in develop markets, it was only less than 60% in China, which indicated great potential for market growth. Even between 2017 and 2018, the growth remained steady (12.3% increase in quantity in 2017) despite the economic slowdown (Euro Monitor International, 2019; Kantar, 2018).

Despite the great market opportunity, foreign and large producers have been facing fierce challenges from their smaller and local competitors. Traditionally, foreign brands have been dominating the diaper market in China. Four of the five top-selling brands (Procter & Gamble, Hengan, Unicharm, Kimberly-Clark, Kao Corp.) in China are imported except Hengan, which accounts for 61.9% of the market share in 2015, while Procter & Gamble alone accounts for 36.8% (Sammy, 2016). Survey indeed demonstrates that Chinese parents tend to trust foreign infant diaper brands more than the domestic counterparts (Kantar World Panel and Bain & Company, 2019). However, while imported brands remain leaders in the diaper market in China, a number of emerging local producers has been growing their market presence. For example, the brand Lelch's growth rate exceeded 120% in 2017, while Care Daily became one of the most purchased labels within the year of market launch (Kantar, 2018). Across the fast-moving consumer goods, domestic brands grew by 15% from 2016 to 2018, comparing with 9% growth of overseas manufacturers. Power shift has also taken place between big and small brands. For example, from 2010 to 2015, Procter & Gamble's market share decreased from 41.6% to 36.8% (Sammy, 2016). From 2016 to 2018, the top 5 brands have lost 16% of diaper market shares in China (Kantar World Panel and Bain & Company, 2019; Research in China, 2016). Smaller brands' and domestic producers' growth rates overtook their bigger and foreign counterparts, as they can more swiftly

accommodate to customers' needs, are more capable at marketing through social media (Wang, 2016).

To gain and sustain success in a market with growing opportunities and competitive rivals, a brand needs robust product innovation practices (Roy and Riedel, 1997). Therefore, the baby diaper market of China was chosen as the market context of this study that resides in the product innovation domain.

### **1.1.3 The personal context - the researcher's industrial practices**

In addition to the market context mentioned in the proceeding section, the origins of this study also include the researcher's personal industrial experience and academic interest in customer research and innovation (Barczak, *et al.*, 2009).

Prior to the commence of this study, the researcher gained post-graduate education and industrial experience in multiple business consultancy projects in the product innovation field. Particularly, the researcher had a track record of helping a leading multinational fast-moving consumer goods company (Firm A) to shape their innovation strategy, and to design, develop and deliver new products to the Chinese and European markets. The connection was established through the researcher's director of study of the doctorate degree. As a member of the director of study's research group, the researcher gained valuable opportunities to work with Firm A. When executing the consultancy works, the researcher increasingly saw the needs of using rigorously developed academic knowledge to inform the practice, and to conceptualise the practical business experience in a scholarly way, as the innovation field had been changing rapidly. Therefore, the researcher determined to acquire data access and sponsorship from Firm A to establish this PhD study.

When the researcher approached Firm A, they were keen on seeking help from the researcher to solve a severe problem that their diaper product brand in China encountered due to social media (SM). They noticed that, with the vast adoption of SM among customers, their sales record plunged. They highly anticipated that the academic knowledge generated from this study could enable the researcher to give them crucial innovation advice. The researcher's Chinese origin and long-term life experience in China also continued to encourage them. Therefore, they agreed to support the research.

However, the researcher took efforts to convince Firm A to switch their innovation focus from the rear-end market launch activities to front-end of innovation (FEI) activities. At the beginning, they held an assumption that the brand's underperformance in the market was a marketing communication issue. After an analysis of existing information provided by Firm A, the researcher determined that what confronted the firm was a new product concept development issue instead of a product launch issue (it was also proved by the findings of this study, see Chapter 4 and 5). Followed by multiple rounds of communications, the researcher and Firm A reached a consensus to shift the development of innovation strategy from focusing on the rear-end of innovation the new product ideation activities in FEI (Eppinger and Ulrich, 2015 Langerak, et al., 2004).

As a result, the study enabled Firm A to know their customers better, especially in terms of their SM usage behaviour. It was imperative to Firm A, as it solved the mystery of why the customers' SM adoption hindered Firm A's market performance, and it implied how Firm A could utilised SM to conduct customer research for informing new product ideation. In addition, the development of a successful new product idea was also achieved, which enabled the infant diaper brand of Firm A to regain their market leader position in China in 2015.

The knowledge gained during this study and the advice that the researcher gave to Firm A significantly helped the researcher to continue building a career in the innovation field. Holding a full-time innovation consultant position with a specialisation in customer research, the researcher has been keeping implementing academic knowledge into practice, and conceptualising the practical learnings into knowledge.

## **1.2 Existing research, knowledge gaps and the justification of this study**

This section introduces the existing research that is relevant to the research context and identifies the knowledge gaps. It is comprised of two areas of knowledge: (1) The existing literatures about the influences of SM on customer decision-making process, and (2) The studies about businesses' reaction to customers' decision-making behavioural changes caused by SM.

### **1.2.1 Studies about SM's influences on customer decision-making behaviour**

Extensive studies have been conducted to explore, describe, explain and rationalise the influences of SM on individuals' social, information exchange, consumption, political, and entertainment activities (Ellison, et al., 2011; Antheunis, et al., 2013; Xiang and Gretzel, 2010; Heinonen, 2011; Hermida, et al., 2012; Youmans and York, 2012; boyd, 2014; Peterson and Merino, 2003). However, few academic endeavours have been made to systematically investigate how SM influences customers' purchase decision-making process.

On the other hand, industrial players have been actively exploring how customers make decisions under the influences of SM. Among them, business consultancy McKinsey & Company has been conducting the most systematic and ongoing case studies and conceptualisations. Since 2009, they have been publishing updates of findings on a "Customer Decision Journey (CDJ)" model that provides conceptualisation of customer decision process under the influences of SM (Edelman, 2010; Court, et al., 2009; Edelman and Singer, 2015; Maechler, et al., 2016; Edelman, 2010; Edelman and Singer, 2015). It is the only comprehensive modelling of SM-driven customer decision processes. However, the McKinsey CDJ model did not provide sufficient details about the cases and the methodologies they adopted to research about and conceptualise the models, neither are their findings published in peer reviewed journals. Also, this model is not focused on the Chinese market. A Chinese market-focused rigorous academic study that explores customer decision making process can extend, add depth and verify the McKinsey model and add to scholarly knowledge in this domain.

In summary, the reviews of existing knowledge suggested knowledge gap of a systematic and rigorous study that explores and describes customers' SM-driven decision process that is supported by detailed and sector-specific evidences in China. This identified gap suggested a research opportunity and focus for this study (see Section 1.3). The detailed literature reviews are included in Chapter 2 of this thesis.

### **1.2.2 Studies about Businesses' responses to the customer behavioural changes caused by SM**

In response to the changes of customers' decision-making process caused by SM, businesses have been making efforts to establish new strategies to win customers (Edelman and Singer, 2015; Verot, 2016; C., 2017). Their reactions have been



concentrating on the development of SM marketing or advertising strategies for their market launch activities (Langerak, et al., 2004). As SM-empowered customers abandoned the traditional marketing or advertising messages from producers or retailers to a large extent, companies' new SM-focused market launch activities aim at the re-participation in customer communication in order for lurking customers to choose their product offerings (Edelman and Singer, 2015; Verot, 2016). Similarly, a large number of academic studies have been booming recently to explore, explain, and rationalise how businesses react or can better respond to customers' decision behaviour alterations driven by SM (Gensler, et al., 2013; Gallagher and Ransbotham, 2010; Dellarocas, et al., 2007; Mangold and Faulds, 2009; Tuten, 2008; Ferreira, et al., 2017; Berthon, et al., 2012; Thackeray, et al., 2008; Ashley and Tuten, 2015). Like industrial practices, academic investigations also demonstrated a prominent focus on businesses' market launch activities like social media marketing, social media advertising, and sales optimisation through leveraging customers' social media data (Kaplan and Haenlein, 2010; De Bruyn and Lilien, 2008; Laroche, 2010; Armelini and Villanueva, 2011; Hoffman and Fodor, 2010; Guesalaga, 2016; Fan and Gordon, 2014). A few scholars called for the explorations of how the influences of SM on customers' decision process can or cannot be addressed in the front-end of innovation (FEI) activities in a business's new product development (NPD) process (Eppinger and Ulrich, 2015; Roberts and Candi, 2014; Rathore, et al., 2016; Iacobucci and Hoeffler, 2016; Roberts and Piller, 2016). They proposed to investigate this domain from 2 perspectives: (1) how businesses can or cannot utilise customers' peer conversations on SM to discover customer needs to inform new product ideation, and (2) how businesses can or cannot conduct customer research activities like focus groups or co-creation through SM platforms (Roberts and Candi, 2014; Roberts and Piller, 2016). Their calls for research and the lack of investigations in the FEI-focused customer research domain suggest that it is a valuable research opportunity.

This knowledge gap is further highlighted by observations in the NPD domain. Researches indicated that, although it is a consensus that customer research activities in FEI is a crucial success factor of FEI and NPD activities, these research activities have not been well practiced by businesses (Cooper and Kleinschmidt, 1995; Ernst, 2002; van Kleef, et al., 2005; Florén, et al., 2017; Barczak, et al., 2009). Therefore, there is a need to provide more suggestions to enhance companies' FEI-focused customer research performances. In the context of SM's popularisation and customers' drastic behavioural change, the exploration of how the customer research activities can be affected by SM-driven CDJ can offer valuable suggestions to NPD practitioners (Roberts and Candi,

2014; Roberts and Piller, 2016; Barczak, et al., 2009). It can also contribute to academic knowledge.

Given that the motivation of this research is originated from the phenomenon of Chinese customers' radical adoption of SM in their decision process, the researcher observed a lack of academic study of businesses responses in the Chinese market (Bain & Company and Kantar Worldpanel, 2014; Flemming, 2016; Grace, 2015; W. Spelich, 2017; Yang, 2013; Wang, et al., 2012; China, 2012; Wong, 2013). Therefore, a Chinese market-grounded study that investigates how consumer goods companies can respond to the SM-driven CDJ from the FEI-focused customer research activities perspective can significantly contribute to scholarly knowledge and managerial recommendations.

In summary, the review of existing studies indicated three knowledge gaps: (1) a lack of investigation of how businesses can or cannot respond to SM-caused customer decision process changes from FEI-focused customer research perspective instead of market launch activities in rear-end of NPD perspective, (2) a demand of more suggestions to enhance customer research practices in FEI of companies, and (3) a shortage of researches based on the Chinese market. These inter-related knowledge gaps inspired this study to investigate how businesses can respond to the SM-driven CDJ from the FEI-focused customer research activities perspective in the Chinese market. More detailed knowledge reviews in this domain can be found in Chapter 2: Literature Review of this thesis.

### **1.3 Research Aims, Objectives, Questions, and Contributions**

A review of existing academic knowledge revealed knowledge gaps that inspired and justified the establishment of this research (see Section 1.2). Based on the identified knowledge gaps and research opportunities, the aims, objectives, and research questions of this study are defined.

#### **1.3.1 Research Aims**

The duo-aim of this study is directly derived from the identified knowledge gaps:

***To investigate (1) the impact of social media (SM) on customer decision journey (CDJ) and (2) the implications of the SM-driven CDJ on customer research activities in the front-end of innovation (FEI) in the Chinese market.***

To fulfill these 2 aims, a series of research objectives were developed.

### **1.3.2 Research Objectives**

Based on the defined research aims, 4 objectives are established:

- (1) To develop an in-depth and detailed understanding of the Social Media-driven CDJ;
- (2) To develop a descriptive framework for SM-driven CDJ;
- (3) To create an in-depth understanding of how FEI-focused customer research activities can or cannot benefit from the SM-driven CDJ;

These research objectives clarified the specific facets of the themes that the research is set to investigate, which created a clear guidance for this study. The nature of these objectives also suggested that this study is mainly exploratory (Robson and McCartan, 2016). It is because the target themes are at a nascent stage of investigation (Yin, 2013).

### **1.3.3 Research Questions**

To aid the fulfilment of the established research objectives, two research questions are raised in accordance with the critical reviews of existing literatures and the identified knowledge gaps:

- (1) How and why do customers access and employ social media (SM) in their “decision Journey”?
- (2) How does SM-centred CDJ influence businesses' customer research activities in FEI and why?

The demand of responses from these questions facilitated the development of research methodology and the fulfilment of research aims and objectives in this study (Robson and McCartan, 2016).

### **1.3.4 Contributions to Knowledge**

Through responding to the research questions, this study contributed to knowledge in six aspects:

- (1) A synthesised and enhanced customer-decision journey model is developed, that brought together the most established academic and industrial findings.
- (2) Two China baby diaper market specific SM-centred CDJ models were developed based on the empirical study, which can help innovation practitioners make decisions, and inspire further academic studies about

Chinese customers' decision making behaviour and the influences of social media.

- (3) The study provided academic and managerial suggestions to address challenges brought about by SM-centred CDJ from the FEI perspective.
- (4) The study provided academic findings and managerial implications of involving SM in FEI-focused customer research activities.
- (5) Knowledge of facilitating customer research with visual-based research (VBR) tools is developed in this study, which addressed an academic research gap, and provided practical suggestions for innovation practitioners.
- (6) The study documented a real-life business case in an emerging research field. As the research domain is nascent and few industrial observations have been documented, this study added valuable empirical knowledge with both academic and practical recommendations.

## **1.4 Organisation of the Thesis**

The last section of this chapter presents the organisation of the thesis. It aims at providing an overview to assist the readers navigate through the document. Following the introduction, the second chapter presents the critical reviews of literatures, which establishes the theoretical basis of this study. The Chapter 3 then illustrates the methodological design of the study, which bridges the theoretical and empirical aspects of the research. It is followed by the exhibition of empirical findings in Chapter 4, which are brought into Chapter 5 with existing theoretical knowledge to develop discussions. The discussions allow the contributions to knowledge of this study to emerge. Finally, Chapter 6 conclude the whole thesis. A summary of each chapter of the thesis are presented below:

**Chapter 1 INTRODUCTION** – This chapter presents the background, justifications, and focus of the research. It first introduces the origin of the study. In the following section, an overview of existing knowledge and the knowledge gaps are then presented, which justifies the rationale of the study and inspires the definition of the research aims, objectives, and questions. The final section introduces the structure of the complete thesis document.

**Chapter 2 SOCIAL MEDIA DRIVEN CUSTOMER DECISION JOURNEY AND CUSTOMER RESEARCH IN THE FRONT-END OF INNOVATION – THE STATE OF ART: A REVIEW OF EXTANT LITERATURE**

– This chapter positions the study in the theoretical field, while establishes the niche area that this research can occupy (Bunton, 2002). It is done through the reviews of two main area of existing knowledge: (1) SM and how it influences the customer decision making process, and (2) customer research activities in the FEI including the state-of-art findings about SM enabled emerging customer research methods. While establishing the theoretical foundation of this study, the literature reviews also guided the design of this study that is discussed in Chapter 3.

**Chapter 3 OPERATIONALISATION OF THE STUDY: APPROACHES AND TOOLS**

– The design of the study is demonstrated in this chapter. It discusses the philosophical, methodological and operational considerations of the research design. A detailed description of the chosen research strategy, data collection and analysis methods, and research limitations are also provided.

**Chapter 4 DATA, ANALYSIS AND FINDINGS** – Chapter 4 exhibits the findings that are identified through the analysis of data that were collected through the research process described in Chapter 3. It provides materials to create discussions in the next chapter. The chapter concludes through the provision of preliminary responses to the research questions.

**Chapter 5 DISCUSSIONS, INTERPRETATIONS AND REFLECTIONS** – This chapter examines and discusses core findings identified in the proceeding chapter. It is done through the triangulations and comparisons between the empirical findings and the relevant existing theoretical knowledge. It highlights how the empirical findings confirm, reject and extend the theory, which establishes the contributions to knowledge of this study.

**Chapter 6 CONCLUSIONS** – The last chapter revisits the study and conclude the whole thesis. It re-examines the research aims, objectives, and questions, while pinpointing the contributions to knowledge and research limitations. It also highlights the implications for future research.

## **2 SOCIAL MEDIA DRIVEN CUSTOMER DECISION JOURNEY AND CUSTOMER RESEARCH IN THE FRONT-END OF INNOVATION – THE STATE OF ART: A REVIEW OF EXTANT LITERATURE**

### **2.1 Introduction**

This chapter presents a review of literature that was conducted in the light of the defined research objectives (see Section 1.3.2). The literature review endeavoured to identify how existing academic knowledge can or cannot fulfil these objectives (Silverman, 2013). It enables the readers to navigate what are already known about the research topics, what are the common or conflicting opinions, how the author/researcher critically interprets the existing knowledge, and what are yet to be investigated. Therefore, it also demonstrates the position and value of this research within its context.

The chapter is comprised of two sections. The first section (Section 2.2) reviews the first topic of the research: the impact of social media on customer decision journey. It is designed to define the established understandings and knowledge gaps for the fulfilment of the first two research objectives. The next section presents the reviews of the second research topic: the implications of SM-driven CDJ on customer research activities in the FEI. As the previous section, it investigates the state-of-art academic knowledge and identifies what else are needed to fulfil the third research objective. The last section summarises the chapter with highlighting research opportunities and focuses for the empirical study.

This study adopts the term “customer” instead of “consumer” to emphasise the relationship between businesses and their customers. It is because the definition of the term “customers” emphasises a buy and sell connection between customers and businesses and the power of the former to choose between different products or companies, while the term “consumer” mainly focuses on individuals’ the buying and using behaviour (Oxford Advanced Learner’s Dictionary, 2018a, 2018b).

Overall, eight existing studies established the key knowledge base of this research. The table below provides an overview of these studies and their influences on this study:

Key existing study	Key theme of the study	Its influence on this research
<b>Iacobucci and Hoeffler, 2016</b>	Pinpointing the conceptual framework of customer empowerment and business disempowerment caused by social media	Provided a significant foundation for building the conceptual framework of this study, which enabled the development of one area of discussions.
<b>Edelman, 2010</b>	Proposed the most adopted conceptual framework of social media-driven customer decision making process based on industrial knowledge	Provided foundations for the construction of a synthesised SM-driven CDJ model based on literature review, and the creation of two CDJs based on empirical studies; provided insights that contributed to the development of one area of discussions
<b>Blackwell, et al., 2001</b>	Proposed the most adopted academic conceptual framework of customer decision making process	Provided foundations for the construction of a synthesised SM-driven CDJ model based on literature review, and the creation of two CDJs based on empirical studies; provided insights that contributed to the development of one area of discussions
<b>Ernst, 2002</b>	The study suggested that understanding customer needs is a key factor for FEI and NPD success	Provided foundational evidence for the key theoretical stance of this research. This research is established based on the viewpoint that

		understanding customer needs through customer research is a key success factor of FEI success. Therefore, whether SM can provide new opportunities for brands to understand customer needs can impact their FEI performances.
<b>Robert and Candi, 2014</b>	Called for research to investigate if SM can affect firms' FEI practices, besides rear-end of innovation (market launch) activities	Suggested a key knowledge gap that this research addresses.
<b>Carr et al., 2015</b>	Provided empirical evidences that SM text-mining can be used as a method for customer research for FEI based on a real-life business case in the food sector in Europe, North America and Latin America	Provided preliminary evidences that brands can conduct customer research through SM by adopting SM text-mining methods, which this research can build on.

Table 01: Existing key studies and their influences on this research (A) (Source: developed in this study)

## 2.2 The Impact of Social Media on Customer Decision Journey

The critical discussions of existing knowledge about the impact of social media (SM) on customer decision journey (CDJ) are presented in this section. It first reviews and clarifies definitions of core concepts around SM (in Section 2.2.1), as the researches about SM have only emerged recently, which sees more debates than consensuses. The next section (2.2.2) examines existing understandings of the characteristics of communications occurred on SM. The reviews of these characteristics are significant, as they can be considered as the reasons why SM created impacts on customers' decision



making behaviour and FEI-focused customer research activities of businesses (Edelman, 2010; Robert and Candi, 2014). Hence, the discussions in this section do not only demonstrate the characteristics, but also develops initial indications of how they affect customers' decision making process and customer research activities of businesses. The following section (Section 2.2.3) zooms in to a crucial phenomenon caused by the particular characteristics of SM-driven communications – customer empowerment and business disempowerment (Iacobucci and Hoeffler, 2016). It highlights the need of studying how customer behavioural changes that are caused by SM can impact businesses and how businesses should react, hence the importance of this study. Next, Section 2.2.4 reviews existing knowledge of how SM affects customers' decision making process through the examination of two customer decision process models – the established and traditional Engel-Blackwell-Miniard Customer Decision mode (EBM) model, and the SM-focused McKinsey customer decision journey (CDJ) model (Blackwell, et al., 2001; Edelman, 2010). Lastly, Section 2.2.5 review existing knowledge about how social media affects Chinese baby diaper customers, drawing links between the theoretical knowledge and the empirical studies. Based on the comparison and synthesis of the two models, knowledge gaps are identified to guide the empirical study.

The key existing knowledge in this domain focus on two areas:

- (1) Customer empowerment and business disempowerment caused by social media (Iacobucci and Hoeffler, 2016)
- (2) The modelling of customers' product decision making process or journey in general or under the influence of social media (Edelman, 2010; Blackwell, et al., 2001)

The following table illustrates the impact of the key studies in these two areas on this research:

<b>Key study</b>	<b>Key theme of the study</b>	<b>The influences of the study on this research</b>
Iacobucci and Hoeffler, 2016	Pinpointing the conceptual framework of customer empowerment and business disempowerment caused by social media	Provided a significant foundation for building the conceptual framework of this study, which enabled the development of one area of discussions.

Edelman, 2010	Proposed the most adopted conceptual framework of social media-driven customer decision making process based on industrial knowledge	Provided foundations for the construction of a synthesised SM-driven CDJ model based on literature review, and the creation of two CDJs based on empirical studies; provided insights that contributed to the development of one area of discussions
Blackwell, et al., 2001	Proposed the most adopted academic conceptual framework of customer decision making process	Provided foundations for the construction of a synthesised SM-driven CDJ model based on literature review, and the creation of two CDJs based on empirical studies; provided insights that contributed to the development of one area of discussions

Table 02: Existing key studies and their influences on this research (B) (Source: developed in this study)

### 2.2.1 Defining Social Media

This section reviews the definitions of basic concepts that are related to social media (SM). While establishing a clear understanding of the key concepts, the reviews also provided a series criteria of what online platforms or services can be classified as SM. The clarification of the definitions is significant, as a considerable number of literatures either discuss about the whole internet environment (SM is a part of it), or indicate a confusion of SM related terminologies. As this study focuses on SM, it is necessary to assess if the articles are relevant to SM before including them in the study. It is also worth explaining that the study focuses on SM instead of other categories of platforms or services among the internet environment, because the SM category is the predominant representative of the current wave of internet mass adoption. Also, SM is

the very type of internet application that fundamentally affected customers' communication dynamics and purchase decision making behaviour.

Since its birth, SM has been extensively studied from sociological (boyd, 2014)<sup>1</sup>, business (Kietzmann et al., 2011), technological (Li et al., 2014), and psychological (O'Keeffe and Clarke-Pearson, 2011) perspectives in the academia. However, a consensus of its definition between researchers is missing (boyd, 2015), while misconceptions between SM and other concepts like Web 2.0, User Generated Content (UGC), and Social Network Sites (SNS's) exist. This section aims at discussing and clarifying the definition of SM. This helps determine the focus and scope of this study. Three concepts that are closely related to SM are also introduced: Bulletin Board System (BBS), Web 2.0, and User Generated Content (Kaplan and Haenlein, 2010; Edosomwan, et al., 2011). This introduction is necessary, because (1) these concepts either laid a foundation or significantly contributed to the SM phenomenon, and (2) they are usually misused as interchangeable concepts to replace SM, which can cause confusion (Ngai, et al., 2015).

### **2.2.1[a] Social Media**

Kaplan and Haenlein (2010) provided one of the first clarified definitions of social media (SM), which has been one of the most cited articulation in journals so far. They define SM as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content (UGC)." Five dimensions can be identified in this definition:

- (1) "Internet-based", which clarifies the operational environment or network connection requirement of SM (Kaplan and Haenlein, 2010);
- (2) "applications", which represents the physical manifestation and essence of SM (Kaplan and Haenlein, 2010);
- (3) "Web 2.0", which establishes the core principle, ideological and technological foundation and value proposition of SM (O'reilly, 2007);

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<sup>1</sup> danah boyd is a scholar who studies the relationship between technology and the society with a track record in the fields of social media and data (boyd, 2018a). In 2000, she legally changed her name and removed all capitalisations (boyd, 2018b). She did that for a series "personal and political reasons", like the new version was more visually balanced, and she felt capitalisation in names was a "self-righteous" act.

(4) "creation and exchange", which are the key activities or functionalities SM provides or enables (Kaplan and Haenlein, 2010);

(5) "User Generated Content (UGC)", which defines the content that is "created and exchanged" on SM, while indicated the target customers of SM - individuals/end users out of their professional routine (Vickery and Wunsch-Vincent, 2007) (see the definition of UGC in the Section 2.2.1[d]).

Whilst helping to establish a comprehensive and perspicuous interpretation of SM, the definition has also initiated considerable discussions. It has been argued that, since businesses and other organisations are also frequent users of SM (Aral, et al., 2013; Trainor, et al., 2014; Fan and Gordon, 2014; Manuel, 2013; Mainka, et al., 2014; Raja-Yusof, et al., 2016), the contents exchanged on SM are no longer limited to UGC. However, it is not to deny that UGC was what SM was originally designed to transmit (Kaplan and Haenlein, 2010) and still accounts for a significant amount of information exchanged on SM to date (Manovich, 2011). Literatures suggest that UGC is this attribute that makes SM special, which can be considered to have triggered the boom of today's internet industry (Harrison and Barthel, 2009; Van Dijck, 2013). From this perspective, we can also interpret that the definition places an emphasis on UGC instead of intending to exclude other types of contents that can also be exchanged on SM.

However, the "networking" activity or function that SM enables (Kwak, et al., 2010) appears not to be overtly mentioned in the definition. Individuals do not only acquire, pass, and contribute information through SM (Lee and Ma, 2012), but also build and maintain their social networks (boyd and Ellison, 2007). For example, Facebook is especially used for keeping in touch with people in one's personal relationship circle (Joinson, 2008), while LinkedIn is designed and adopted for professional networking (Skeels and Grudin, 2009). However, it seems reasonable to recognise information communication as the foundational function or user activity of SM, as it can trigger or support relationship building and other motives, usages or effects like self-presentation (Seidman, 2013) and entertainment (Quan-Haase and Young, 2010). Previous research has argued that the Bulletin Board System (BBS), the very first precursor of SM, was created for information communication between peers (Barry, 2003) (see section 2.2.1[b]). Other functions appeared afterwards with the evolution of usages or user needs (Van Dijck, 2013).

One noteworthy detail is how SM "allows" inter-personal communication to happen. Scholars argue that SM can be considered as an enabler of self-sufficient

communications between humans (Van Dijck, 2013, Ellison, Steinfield and Lampe, 2007 and Kaplan and Haenlein, 2010). However, human communications on SM and functionalities provided by the SM platforms interactively shape each other, which constantly form new means and purposes of communications on SM. For example, Facebook allowed communicative activities that did not exist before, like sharing real-time updates of natural disasters with peers (Sa, *et al.*, 2012). In this situation, user behaviour is partially enabled by Facebook. During usage, users' behavioural data are constantly captured and analysed by Facebook's algorithm, which can be used to shape future functionalities of the platform. The updates of functionalities will in turn shape users' future behaviours (Van Dijck, 2013). Therefore, it has been reasoned that SM does not only provide platform for or facilitate communication, but also determines how and for what purposes it can take place (Van Dijck, 2013).

This study adopts Kaplan and Haenlein (2010)'s definition of SM for its clarity, comprehensiveness and openness to discussion, while recognising its lack of consideration of the non-personal usages of SM. A particular emphasis is laid on the open, interactive and collective ideology of SM, as it is the engine that has been driving innovations in technologies, business models, social development and scholarships (boyd, 2015).

### **2.2.1[b] Bulletin Board System**

Bulletin Board System (BBS) has been attributed by scholars as the embryonic form of the modern SM and other web applications (Kaplan and Haenlein, 2010; Edosomwan, *et al.*, 2011; Baym, 2015). BBS is a computer programme that receives, displays, and archives contents posted by different users (Rafaeli, 1984). Users can use their own computers to log-in and connect to the software, which allows them to read and post contents publicly, upload and download files, play games with others, and send direct messages or create private chats with other users (Edosomwan, *et al.*, 2011). The first BBS, namely Computerized Bulletin Board System (CBBS), was established by two computer enthusiasts Ward Christensen and Randy Suess during the Great Blizzard of 1978 in Chicago for them to exchange information with peer computer hobbyists (Barry, 2003). It was twenty years prior to the invention of the World Wide Web. Users then had to dial-up with a telephone one at a time, while the programme did not support graphic or coloured contents (Edosomwan, *et al.*, 2011). With the development of computer and network technology, the Internet took over BBS's position in connecting individuals while the World Wide Web replaced BBS to publicly host content. However, BBS did not

disappear but adapted itself to utilise the greatly advanced Internet connections and displays to users as WWW sites. Multimedia contents became available. The terminology also evolved to Web Board or Internet Discussion Forums (Bickart and Schindler, 2001; Baym, 2015). BBS and its descendants appear to have been established initially to serve the interests and needs of communication driven by a strong amateur culture, though BBS was later commercialised (James, et al., 1995). According to the history, it is suggested that online communities first emerged on BBS (Kozinets, 1999).

The synthesis of literature suggests nine features of BBS or online forums. First, they are highly accessible by individuals, as anyone with network connections and computers are able to sign up (Rafaeli, 1984). One of their targets is to reach wider audience and encourage participation. Second, online forums enable efficient communication through offering swift information exchange and search (Pena-Shaff and Nicholls, 2004). These communications are set to be transparent and open, as the contents are normally publicly visible instead of merely directed to a limited list of individuals (Rafaeli, 1984; James, *et al.*, 1995; Pena-Shaff and Nicholls, 2004). Although direct messaging or private chats are also widely available, they solely serve as supporting functions. The third characteristic of BBS or online forums is that the communication occurred through them are asynchronous in nature (James, et al., 1995; Pena-Shaff and Nicholls, 2004). This feature gives users more flexibility in interaction. It also relieves the stress of answering each other immediately, while leaves individuals time to think or research carefully before responding, and opportunities to reflect on other members' ideas. Fourth, online forums are designed based on the idea of interactions that can be initiated or responded by any individuals. In other words, the fundamental proposition of them is not to enable one-way broadcasting from institutions (Pena-Shaff and Nicholls, 2004). Therefore, it can be considered to have democratised communication. The rest of the characteristics are: (1) the communications on forums are usually textual, but multimedia contents exchanges are also enabled (Pena-Shaff and Nicholls, 2004); (2) the user groups on forums are usually formed according to, but not limited to, interests (James, et al., 1995); (3) individuals can enjoy low-cost communications on forums, as the usage of the platforms are generally free (James, et al., 1995); (4) they can also protect their privacy as their presences on forums are designed to be anonymous in nature (Zhongbao and Changshui, 2003); (5) finally, online forum is a type of Computer Mediated Communication (CMC) platform (Pena-Shaff and Nicholls, 2004).

These characteristics highly match with those of communications occurred on SM platforms (see Section 2.2.2) (Kaplan and Haenlein, 2010; Baym, 2015). Hence, is reasonable to trace the birth and popularity of SM back to BBS or forum. It is also not to be neglected that forums continue to be a widely used type of SM platform to date (Bickart and Schindler, 2001; Mangold and Faulds, 2009; Safko, 2010; Chen, *et al.*, 2011; Leung, 2013).

### **2.2.1[c] Web 2.0**

Although the principles behind the birth and operation of BBS or internet forums can be closely relate to SM, the development of the online world was not that streamlined. In the 90's, the internet industry suffered a crash after an over-enthusiasm of the creation of homepages or "dotcoms" (Liao, *et al.*, 2007; Ofek and Richardson, 2003). Only after the adoption of Web 2.0 did the internet based industry came back to life and is currently experiencing a new peak (boyd, 2015).

Being the core value of the internet industry, the concept "Web 2.0" has been repeatedly discussed. However, the consensus of its definition was overtaken by misconceptions. Hence, one of its initiator Tim O'reilly (2007) published an article to clarify what "Web 2.0" truly means. It has been suggested that the creation of this concept is to unlock why some internet companies overcame the collapse of the internet bubble in the 90's, whereas a big group failed to survive. In accordance with O'reilly (2007), "Web 2.0" is comprised of a set of principles that internet based businesses can built upon in order to thrive. In other words, it is not a type of technology or a specific online platform, as how it is misunderstood by a great number of scholars and practitioners. Instead, this definition recognised the common value of the sense of participation and community that scholars repeatedly mentioned (Brown, *et al.*, 2002; Cooke and Buckley, 2008 ; Kaplan and Haenlein, 2010).

O'reilly (2007)'s definition of Web 2.0 pinpointed that a Web 2.0 practise has to utilise the World Wide Web (Berners-Lee, *et al.*, 1994) as a foundation to leverage "collective intelligence" of individuals. It necessitates to provide web-based platforms for individuals to contribute and exchange their observations, thoughts, knowledge, skills, and actions. As a result of the exchanges, a massive volume of data inevitably exist on the Web 2.0 based platforms. Therefore, data will become the core asset, as it has the potential to inform decision making (Casler, *et al.*, 2013; Chun, *et al.*, 2010; Kushin and Yamamoto, 2010). To enable and facilitate the individual contributions and exchanges, the design of

any Web 2.0 services has to be user friendly and allow constant design improvements. Users should be considered as “collaborators” to enhance the quality of the services. Finally, these services are better to be offered across different platforms.

The core value that Web 2.0 brought to the internet industry and the society can be attributed to its ability to empower individuals to initiate communications or collaborations. These were previously a privilege only available to big corporates and organisations with abundant resources, and computer professionals or hobbyists mastering advanced knowledge in the computer or web fields (Cooke and Buckley, 2008). As a consequence, individuals' internet experience transformed from one-way reading to interactive communications (Kozinets, 2010). It has leveraged a participatory and co-creative culture online (Kaplan and Haenlein, 2010) and has allowed online communities to flourish (Brown, et al., 2002). As Cooke and Buckley (2008) summarised, "Web 2.0 is about making computing and media social". This summary revealed the intrinsic link between Web 2.0 and SM. It can be considered that the Web 2.0 principles provided foundation to the development of SM, while SM vividly realised and elaborated the value of Web 2.0. However, it is not to be ignored that there is certainly no leap between the initiative of the value and its realisation. Efforts in technology advancement and business model innovation played imperative roles (Hanna, *et al.*, 2011).

### **2.2.1[d] User Generated Content (UGC)**

Kaplan and Haenlein (2010) provided a concise and clear definition of “User Generated Content (UGC)”: “UGC describes the various forms of media contents that are publicly available and created by end-users”. However, it has been argued that the “online” aspect needs to be added into the definition because UGC has been considered as one of the outcomes of extensive personal access of internet (Gruner and Homburg, 2000; Wu and Wang, 2005). The comprehensive and widely cited UGC guide published by the Organisation for Economic Co-operation and Development (OECD) (Vickery and Wunsch-Vincent, 2007) identified three sufficient conditions that any piece of content needs to meet to be classified as UGC:

(1) It must be accessible to the entire public or a certain group formed on a SM site. Hence, for example, personal emails cannot be considered as UGC (Vickery and Wunsch-Vincent, 2007; Kaplan and Haenlein, 2010);



(2) It should be at least partially an original creation. This requirement excludes simple reposts of ready-made materials without amendments or comments from the UGC family (Vickery and Wunsch-Vincent, 2007; Kaplan and Haenlein, 2010).

(3) The creation of the contents should not be driven by a vocational purpose that is incentivised by commercial bodies. This means that the material published by organisations as a part of their business activities cannot be recognised as UGC (Vickery and Wunsch-Vincent, 2007; Kaplan and Haenlein, 2010).

Based on the OECD criteria, it is reasonable to conclude that users' product reviews that are shared on internet forums or e-commerce sites are valid examples of UGC (Liu, *et al.*, 2011). It is because these reviews are publicly exhibited and are accessible to other users. The users authored them based on their own product usage experiences, mostly without any collaborations with businesses. An extensive domain of other UGC also exists on SM. Examples include peer submitted geographic data on community contributed maps (Flanagin and Metzger, 2008), music related blog posts (Dhar and Chang, 2009), travel destination reviews on TripAdvisor (Ayeh, *et al.*, 2013), news reported by individuals as "citizen journalism" (Thurman, 2008), Facebook Status (Smith, *et al.*, 2012), audiences' film reviews (Yang and Yecies, 2016), and health information provided by individuals (Scanfeld, *et al.*, 2010). Kaplan and Haenlein (2010) even conclude that UGC can be viewed as the total collection of individuals' SM usages.

However, this conclusion is debatable, as SM platforms also provide functions like exchanges of private messages (Twitter, 2017) or purely reposting (Twitter, 2017), which do not fulfil the UGC standard. However, one can argue that these functions are non-SM elements of those SM platforms. A better interpretation of this argument might be that UGC and SM interactively shape and re-shape each other's definition and scope. Nevertheless, it is the media that enables the functions while how users actually use them in turn defines the media (Van Dijck, 2013). Customers' product related UGC exchange activities will be the focus of this research as it can influence businesses (Kaplan and Haenlein 2010; Yu, *et al.*, 2011).

Scholars in the business domain have been demonstrating a substantial level of interests in UGC. The main reason is that UGC influences customers' perception of brands and products and purchase decision making behaviour (Zhu and Zhang, 2010; Cheong and Morrison, 2008; Dellarocas, *et al.*, 2007; Liu, *et al.*, 2011), which is usually more powerful than manager-generated contents (MGC) (Goh, *et al.*, 2013). A same pattern of academic interest is observed in the social media domain (Zhu and Zhang, 2010; Goh,

*et al.*, 2013; Wang, *et al.*, 2012; Muntinga, *et al.*, 2011; Ye, *et al.*, 2011). It is reasonable to suggest that, together with the infrastructure SM provides, product or brand related UGC is a crucial factor that contributes to businesses' enthusiasm in SM.

### 2.2.1[e] Summary

This section discussed the definition of the core concept of the study: SM. It also provided discussions of three concepts that are relevant to SM: BBS/forums (as an early precursor and a popular contemporary type of SM), Web 2.0 (provided principles that SM and other successful internet service should build upon), and UGC (the predominant form of contents that are exchanged on SM, created by end-users). The definitions of these concepts first contributed to a set of criteria determining what can or cannot be classified as a SM platform (See Table 03 below). As Kaplan and Haenlein (2010)'s definition of SM contains two dimensions: platform construction and contents, the researcher categorised these reference points into the two groups. These criteria can also be viewed as features of SM platforms. Second, the investigation of the definitions also indicated a significant meaning or value of SM – decentralising institutionally controlled communication and empowering individuals to exchange information or collaborate between each other. These discussions established the foundations for further investigations of how SM changed the interactions between customers and businesses, and how it impacts customers' decision making journey and businesses' front-end of innovation (FEI) activities (Edelman, 2010; Ernst, 2002; Barczak, *et al.*, 2009). It also provided guidance for the selection of SM platforms to include and study about in the empirical study.

Platform Features	Content Features
World Wide Web and internet-based	Publicly accessible at least to a group of individuals
A computer application	At least partially original
Enables and facilitates contents exchange between individuals	The creation is not incentivised by commercial bodies
User-friendly designs and development	Results in a great volume of data that has the potential to inform decision making
Constant improvements and updates of the application	
Available across devices	

Table 03: characteristics of SM platforms [source: adapted from Kaplan and Haenlein, 2010; Vickery and Wunsch-Vincent, 2007; O'reilly, 2007; boyd, 2015]

### **2.2.2 Characteristics of Communications on Social Media**

The aim of this section is to support and enhance the understanding of the mechanism behind individual or business activities related to social media (SM) and the interactive influences between individuals, businesses and SM. Literatures suggest that SM has altered the relationship between individuals and businesses fundamentally through the re-organisation of the information exchange or communication system (Goldsmith, 2006; Smith and Anderson, 2016; Umit Kucuk and Krishnamurthy, 2007). In the following sections, identified features of SM information exchange will be discussed individually with the reviews of their benefits, advantages, limitations and negative effects. Some discussions also draw initial implications on how businesses' customer research activities in the front-end of innovation (FEI) might be influenced by the changes and how should businesses react (Robert and Candi, 2014).

Eight major SM features of information exchange activities are discussed in detail in the following sections. These aspects contribute to the flexibility and accessibility of SM information exchange. Any single characteristic might not make SM special, or might even not be a unique feature of SM. For example, print media also eliminated the spatial and temporal restrictions of communication (see Section 2.2.2[a] and 2.2.2[b]) as SM did (Ellison and boyd, 2013). However, the set of characteristics has collectively established the distinctive dynamics of SM information exchange, which has been altering the connectedness among individuals and organisations. It is this change of communication dynamics between individuals and businesses that has caused the power shift between customers and businesses and urged the businesses to rethink and adjust their market behaviour (see Section 2.2.3) (Cova and Pace, 2006; Labrecque, *et al.*, 2013). This study was partially originated from this urge.

The businesses mentioned in the section belong to the fast moving customer goods (FMCG) category, as it is the sector that this study is focused on (the empirical study resides in a real-life industrial context in the infant diaper products sector). This business field typically requires user information or user involvements for New Product Development (NPD), but cannot currently collect information from or undertake effective co-creation activities with customers via SM in a seamless and proficient way like digital product/service providers do (Bifet, 2013).

### **2.2.2[a] SM communication is free from spatial restrictions**

Current literature argues that SM enables users to connect without spatial restrictions (Goldsmith and Horowitz, 2006; Chayko, 2008; Hogan, 2010; Jurgens, 2013; Chan, 2015). Researchers usually regard this feature as beneficial, as it has enhanced interpersonal connectedness. It allows individuals or organisations based in different villages, cities or even continents to interact with each other, which contributes to the expansion of individuals' communication circles. This feature also eliminates the need for a person to be at a specific location to connect with peer individuals or organisations, which increases the level of flexibility of people's participations in interactions (Kaplan and Haenlein, 2010). For example, shoppers can consult other customers' product opinions merely through browsing online at their own spaces (Bronner and de Hoog, 2011). For businesses, this means potentially unlimited reach to customers anywhere (Ngai, *et al.*, 2015). For instance, they can communicate to, listen to, and collaborate with customers without the needs to travel to their geographic sites (Blanchard, 2011; Roberts and Candi, 2014). In this situation, it is reasonable to anticipate that front-end innovation (FEI) research activities for new product development (NPD) that need to involve customers from distant or scattered locations can be conducted remotely via SM to save budget or to prevent withdrawal of research. In summary, this feature enables individuals and organisations to connect with others without location constraints.

Despite the benefits, some scholars have raised concerns about the absence of information of users' locational background. They suggest that a lack of information of a users' geographical context might lead to the difficulties of implementing SM in domains like rescuing sufferers in natural disasters (Gao, *et al.*, 2011) or disease dissemination tracking (Paul and Dredze, 2011; Jurgens, 2013). From businesses' perspective, a lack of geographic location information adds obstacles of demographic data collection for customer profiling (Yashin, *et al.*, 1999). To address this issue, some researchers have developed methods to capture users' location hints by analysing their SM conversations (Jurgens, 2013; McGee, *et al.*, 2013). Also, a wide range of SM services or products, like Facebook, Instagram, Twitter, and WeChat are embedded with functions that allow users to indicate where they are based or where their activities occur (Kietzmann, *et al.*, 2011; Wilken, 2014; Schwartz and Halegoua, 2015). These location submissions are verified by GPS and hence can be considered reliable. In addition, when filling in their profiles on discussion forums, users can always opt to enter their locations. On the other hand, some researchers have argued that when businesses involve customer samples on SM, the traditional demographic criteria might need to be adjusted (Constantinides and Zinck

Stagno, 2011). For example, the collection of SM platforms that a customer uses might better illustrate the customer profile than physical addresses.

Overall, the feature of freeing geographic restrictions of SM information exchange opens new opportunities for individuals to communicate, network, and collaborate with each other. It can also ease businesses' customer involvement activities that are usually needed for FEI-focused customer research activities (Zhang and Doll, 2001; Robert and Candi, 2014).

### **2.2.2[b] SM communication offers temporal flexibility**

Another frequently discussed feature of SM is temporal flexibility (Goldsmith and Horowitz, 2006; Cooke and Buckley, 2008; Tess, 2013; Ellison and boyd, 2013). It is attributed to the significant enhancement of the accessibility and adaptability of interpersonal interactions of SM. SM platforms allow both synchronous (e.g. direct messaging) and asynchronous (e.g. posts and comments on online discussion forums) conversations or collaborations. It archives these information exchanges permanently in a retrievable mode. Synchronous communication functions allow users to pursue real-time and more personal dialogues, especially for those who enjoy socialising (Johnson, 2008). However, it is the asynchronous communication capability that differentiates SM.

This delayed-time mode of interaction, for example, offers individuals opportunities to articulate their thoughts carefully before publishing them (Madell and Muncer, 2007; Tess, 2013). It is found to be especially beneficial to those who are with less sociable personalities (Johnson, 2008). The asynchronous approach of communication also eliminates the demand of simultaneous presences of all participants, which can enable wider and more flexible participation (IJsselsteijn, *et al.*, 2003; Madell and Muncer, 2007). The ability of SM to permanent archive information exchanges can be considered as a consequence of the asynchrony (Cooke and Buckley, 2008). This archiving feature allows information shared on SM to be retrieved, used, and modified overtime and at any moment, which enables the enhancement of flexibility and continuity of interactions. Posts and comments on discussion forums and statuses or comments shared on Facebook are typical examples (Ellison and boyd, 2013).

Researchers have raised concerns over the delayed-time interaction mode offered by SM. They argue that this mechanism of communication lacks a sense of interactivity or the immediacy of feedbacks, which leads to low media richness (Tu and McIsaac, 2002; Aljukhadar, *et al.*, 2010). In accordance with the Media Richness Theory (MRT), lower

levels of media richness of a communication channel can result in a higher level of perceived uncertainty among participants. A lack of motivation to participate is normally the consequence (Shiue, *et al.*, 2010, Aljukhadar, *et al.*, 2010). However, this weakness can be compensated by the synchronous communication mode that often co-exists with the asynchronous interactions on SM sites (Ellison and boyd, 2013). On the other hand, whether users perceive asynchronous interaction to be less interactive or not is still debatable (Johnson, 2008; Van Dijck, 2013). Overall, a more established opinion among scholars is that the temporal flexibility characteristic has resulted in a more accessible, flexible, and sustainable interpersonal communication on SM.

### **2.2.2[c] Low financial costs of SM usage**

Despite the requirement of Internet and electricity, SM platforms themselves are normally financially free to use (Kaplan and Haenlein, 2010). Researchers partially attribute individuals' motivations of using SM to this feature (Kaplan and Haenlein, 2010; Whiting and Williams, 2013). They also suggest that both not-for-profit and for-profit organisations can adopt SM to reach customers on lower income budgets because of this low-cost feature (Lovejoy and Saxton, 2012; Weinberg and Pehlivan, 2011; Neti, 2011).

The low financial demand of SM enables a wider group of individuals to adopt it, hence it lowers the barrier of information acquisition, communication and collaboration (Kaplan and Haenlein, 2010; Rotman, *et al.*, 2011; Whiting and Williams, 2013; Bechmann and Lomborg, 2013). Nevertheless, users usually consciously or unconsciously trade in their personal data to the SM service providers as a price (Tucker, 2014). The profit models of many SM providers often extensively involve using the users' SM data to provide targeted advertisement services to other businesses (Gerlitz and Helmond, 2013; Bechmann and Lomborg, 2013; Tucker, 2014). This phenomenon inevitably raises the worry and fear of privacy violation (boyd and Crawford, 2011). In this situation, the usage of SM platforms is no longer "free" for customers. The provision of personal data has become the cost.

For businesses, free SM sites neither do not mean there is no cost involved in adopting SM in their activities. For example, businesses need to invest in the acquisition of new skills or talents to adapt to new requirements such as: online reputation management and SM data collection approaches (Armellini and Villanueva, 2011; Roberts and Piller, 2016). Poor results derived from the commercial use of SM in industry have been attributed to a lack of "investment" in SM based skills in the organisations (Kaplan and

Haenlein, 2010; Roberts and Piller, 2016). In addition, individuals' raising awareness of privacy protection urges businesses to establish ethical standards when dealing with personal data (Tan, et al., 2012). This establishment also demands companies' investments.

In summary, the free-to-use characteristic of SM has allowed a wider community of individuals to exchange information, connect or collaborate. However, it leads to a new type of non-pecuniary cost, which is the provision of personal data. From businesses' perspective, they are able to involve a large group of customers through SM for FEI purposes with a low budget (Carr, et al., 2015). However, the new environment brought about by SM demands that businesses to invest in new capabilities including data collection (from SM), data management and analysis skills that support and provide the foundations for new product development activities.

#### **2.2.2[d] SM communication offers flexibilities of personal identity disclosure**

The anonymity of the computer mediated communication (CMC) environment has been frequently discussed in the literature (Amichai-Hamburger, *et al.*, 2002; Goldsmith and Horowitz, 2006; Correa, *et al.*, 2010; Casler, *et al.*, 2013; Ellison and boyd, 2013). Once, it was even the drive for some individuals to participate in online platforms like forums (Correa, *et al.*, 2010). The anonymity on SM is not absolute but rather a continuum scale, which is normally controlled by terms and conditions set by the service provider and individuals' willingness of identity disclosure (Qian and Scott, 2007; Youmans and York, 2012). People usually tend to reveal a certain level of identity information through textual and visual personal information that they publish or contents that they share (Qian and Scott, 2007). It has also been suggested that individuals tend to construct their own identity on SM environment within the policy control for either self-presentation or self-protection purposes (Seidman, 2013; Forest and Wood, 2012).

The anonymity of SM information exchanges can be a consequence of the absence of pre-established personal relationships (Gil de Zúñiga, *et al.*, 2012). SM platforms normally do not request different parties to be acquaintances for being able to connect or communicate between each other. Previous studies suggested that, if social relationships and personal knowledge between individuals did not pre-exist, even though they exchange demographic information, they can hardly verify each other's identities (Faraj, *et al.*, 2011).

The permission to anonymous inter-personal communication granted by SM offers a new opportunity for one's self-disclosure. Research demonstrates that individuals are more willing to self-disclose to unknown others, as it prevents unwanted personal information exposure in their own social circle (Qian and Scott, 2007). In other words, SM significantly protects the users from dangers caused by self-disclosure, which usually includes others' rejections, disapprovals or betrayals (Forest and Wood, 2012). This protection can increase user participation in SM conversations, especially for those with lower self-esteem, who tend to endeavour to prevent the revealing of their mistakes (Amichai-Hamburger, *et al.*, 2002; Forest and Wood, 2012).

Research findings related to Media Richness Theory (MRT) also support this finding. To some extents, the absence of some social presence cues can mitigate social-psychological impacts like fear of isolation from individuals, which increases individuals' willingness of opinion expression (Ho and McLeod, 2008). As they do not let others know who they are, they are free from the threat of being disliked by others when they express objections. This effect is notably observed among individuals with higher level of introversion and neuroticism (Hertel, *et al.*, 2008). It indicates that people with distinctive views could communicate through SM. In addition to the concealment of one's own identity, the absence of others' personal information can also encourage individuals' participation on SM information exchange (Faraj, *et al.*, 2011). When people are not aware about others' identity, they are less likely to be affected by status gaps, mutual benefits or prejudices. This is probably the reason why the equity level within a SM group increases when the social cues decrease (Cho and Kwon, 2015).

However, in the scenarios that involve higher level of social presence exposure, users tend to display more manners than in those with less disclosure of social cues (Halpern and Gibbs, 2013). As an example, Facebook users tend to behave better than YouTube audiences when leaving comments, as Facebook users tend to disguise personal information less than those adopt YouTube.

The benefit for businesses is that they can involve a more extensive range of audiences with different preferences of identity disclosure in their practices. Also, they can request different levels of personal information from different types of customers to optimise customers' motivation of participation. For example, if they want to involve introvert individuals, limited personal information should be asked (Hertel, *et al.*, 2008). Yet, it is a reasonable concern that the lack of identity disclosure might result in a low level of credibility of information provided by individuals (Faraj, *et al.*, 2011). It might also



increase the probability of misbehaviour among customers (Shneiderman, *et al.*, 2011; Santana, 2014). Businesses may also confront a shortage of demographic information from customers, which can lead to difficulties in the verification of market segmentations (Thackeray, *et al.*, 2008; Foster, *et al.*, 2011). However, this can be compensated by SM usage behavioural data of customers (Constantinides and Zinck Stagno, 2011). In general, researches have demonstrated more benefits than harms of anonymous SM communications (Casler, *et al.*, 2013). The key learning for business might be to have sufficient awareness of the double edges of the absence of identity disclosure and establish clear rules for their practises.

To summarise, SM increases individuals' perceived freedom of opinion expression through enabling the anonymous approach of communication. It enriches inter-personal information sharing, while brings people with different mindsets together. However, the lack of personal identity disclosure can also encourage ones' inappropriate behaviour in SM communication. From the businesses' angle, the flexibility of identity information disclosure allows them to involve a wider group of customers in their customer research activities (Whiting and Williams, 2013; Robert and Candi, 2014). They can also optimise the customer involvement through the adjustment of the level of personal information to request from participants. However, they need to be aware that the lack of disclosure of personal identity could lead to low credibility of information and participants' misbehaviour.

### **2.2.2[e] SM communication can be independent from individuals' existing social networks**

Some scholars have concluded that having an existing social relationship with another user is not a prerequisite of SM communication (Faraj, *et al.*, 2011; Ellison and boyd, 2013). Research suggests that individuals "meet" new people, hence expand their social networks or construct new relationship circles through SM usage. Platforms like Facebook are frequently used for the migration of analogue social networks onto online environment than the search of new encounters (Boyd and Ellison, 2007). However, they are also adopted for the extension of personal relationships by connecting with friends' acquaintances (Ellison, *et al.*, 2011).

In addition to social relationship expansion, this SM communication feature also indicates new possibilities of community formations for knowledge sharing capital (Chiu, *et al.*, 2006; Chang and Chuang, 2011). It results in a new trust landscape, where people trust information shared by "strangers". This phenomenon contributed to the growth of

social capital as individuals' social circles expand on SM (Ngai, *et al.*, 2015). Bigger volume of knowledge with potentially higher level of innovativeness can emerge in this situation (Faraj, *et al.*, 2011). Nevertheless, it may also cause a reduced intensity of individuals' original offline relationships (Ngai, *et al.*, 2015).

Businesses with intentions to be informed by customers for NPD purposes can potentially benefit from the extended knowledge landscape. They may also involve a wider community of customers in their business activities without the need of relying on existing business or personal networks. However, research indicates that the stability of online community can be lower than the offline counterpart (Faraj, *et al.*, 2011). Therefore, businesses are suggested to establish appropriate online community engagement strategies to sustain their customers' knowledge sharing activities on SM (Chang and Chuang, 2011).

### **2.2.2[f] Multiplicity of media types in SM communication**

SM information exchanges can take place through multiple media types or communication modalities (Chaiken and Eagly, 1976; Otondo, *et al.*, 2008; Berthon, *et al.*, 2012), like texts (Paltoglou and Thelwall, 2012), web links (Kietzmann, *et al.*, 2011; de Vries, *et al.*, 2012), computer codes (Peng, 2011; Jia, *et al.*, 2014), emoticons (Tossell, *et al.*, 2012), audios (Bennett, 2012; Chen, *et al.*, 2015), images (John, 2012; Osatuyi, 2013), videos (Cheng, *et al.*, 2007), and live streams (Osborne and Dredze, 2014). Current SM services are heavily multimedia embedded, thanks to the low-budget and easy-to-operate media creation and distribution tools enabled by technology development (Naaman, 2012).

The diverse range of media types that are straightforward to operate and distribute with low costs is believed to encourage individuals' SM information exchange including contents creation, forwarding, and re-production (Naaman, 2012). For individuals, this means the accessibility to a variety of different communication tools. These multimedia tools are selectable for the fulfillment of their different purposes and conveniences of communication (Wolf, 2000; Benevenuto, *et al.*, 2009; Morgan, *et al.*, 2010; Patchin and Hinduja, 2010; Alper, 2013). It also indicates that SM empowers a wide group of individuals to interact with different media preferences or proficiencies (O'Mara, 2013), which can contribute to the creation of a large volume of UGC (Cha, *et al.*, 2007; Naaman, 2012). This feature of SM communication can partially explain the enthusiasm and popularity of SM around the globe and in multitudes of domains (boyd, 2015; Statista, 2016). However, researchers have also highlighted the potential inequality of participation that it can cause. For example, deviations in language and technology

capabilities among different individuals and social groups can lead to different abilities of SM communication (Hargittai and Grusky, 2008; Mossberger, 2009; O'Mara, 2013). Hence, some individuals or groups will inevitably become more influential than others.

For businesses, the giant amount of multimedia UGC that are created and distributed by a diverse groups of communities in varied domains means a massive database of potentially valuable information on SM (Naaman, 2012). Recently, harnessing the "big data" pool on SM for insights discovery that informs business decision making has attracted significant attentions from marketing and computing practitioners and scholars (Patino, *et al.*, 2012; Nunan and Di Domenico, 2013; He, *et al.*, 2013). Practitioners are particularly interested in automated data collection and analysis methods because of the greatness of data amount. In accordance with the researchers' observation, automatically studying textual media is by far the most frequently conducted activity compared with automated analysis of other media types (Naaman, 2012). Even in investigation topics that are focused on image or video media, researchers often prefer utilising text-mining techniques to analyse user comments, tags, or photograph exposure data to draw implications, instead of directly studying those images or videos (De Choudhury, *et al.*, 2009; Dubinko, *et al.*, 2007; Sinha and Jain, 2008). It is probably due to technology limitations and high costs of using computers to directly analyse multimedia files (Sonka, *et al.*, 2014; Szegedy, *et al.*, 2016). However, with the rapid development of technologies like computer vision (Jia, *et al.*, 2014; Thielman, 2016; Luo, *et al.*, 2017; Zhu, *et al.*, 2017), there are potentials to unlock the values of the multimedia UGC in commercial settings through the efficient automatised data analysis. Businesses may also be able to align the selection of media types with their specific purposes when interacting with or involving customers in their activities to enhance the outcomes (de Vries, *et al.*, 2012).

### **2.2.2[g] Platform and functional diversity of SM platforms**

Current research advocates that the landscape of SM platforms is diverse and fast-moving (Mangold and Faulds, 2009; Hoffman and Fodor, 2010; Kaplan and Haenlein, 2010; Whiting and Williams, 2013; Roberts and Candi, 2014; Roberts and Piller, 2016). A varied and numerous range of SM services exist globally or domestically in certain countries. There is also an agile creation of incrementally or radically innovative functions or SM sites. Apart from the widely adopted services like Facebook, Twitter or Instagram, niche sites like subject specific discussion forums also often retain targeted groups of active users (Roberts and Candi, 2014). The first reason of this diversity is that there are varied offerings and constant updates of SM platforms that aim at the fulfillment of the complex dynamics of individuals' needs (Ellison, *et al.*, 2011; Hughes, *et al.*, 2012;

Roberts and Candi, 2014). These needs can be networking-focused, interest-centred or personality-driven.

Second, a single SM platform can offer a complex mixture of services because of its design or users' ways of adoption. For example, the original and core positioning of Facebook was a social network platform (boyd and Ellison, 2007; Kaplan and Haenlein, 2010). However, 66% of American Facebook users also perceive it as a news source (Gottfried and Shearer, 2016), though the CEO refused to recognise it as media (Buni, 2016). Therefore, the mixed functionalities a SM site provides or the gaps between the SM platform providers' original design and the users' perceptions also makes the classification challenging (Otondo, *et al.*, 2008). It may be more reasonable to conclude that a SM service normally provides infrastructures according to its business value proposition, which can support users to construct their own mixture of usages or value realisation. Kaplan and Haenlein (2010) are one the few scholars to attempt to create a typology of SM sites based on established media, sociology or other academic theories (see Table 04). This lack of interest of categorisation is probably a result of the complexity of any operating SM activities.

Besides, the constant market changes including new SM platform creations, company mergers and acquisitions, service terminations, and changes of popularities make the SM scene like a river in Herakleitos's philosophy (SEO Chat, 2015; Perrin, 2015; Chaykowski, 2016; MyLife, 2013; Singh, 1963). Scholars have found that only platforms that truly endeavor to attract users and meet commercial needs of businesses could survive (Gehl, 2012). The shifts of China SM landscape between 2014 and 2016 can clearly demonstrate this feature (see Figure 01 and 02) (Kantar Media CIC, 2014; Kantar Media CIC, 2016). Although the general categories did not change, the market size of each category acutely shifted only during two years. Specifically, the E-commerce and BBS/online forums (including parenting forums) categories significantly expanded, whereas typologies like blogs or microblogs clearly shrank. In accordance with Kantar Media (2016)'s observations, it was because more platforms have launched in the e-commerce and BBS categories to fulfill varied needs of customers. This finding also provided guidance for SM platforms selections in the empirical study design (see Chapter 3).

The cross-device feature of SM services adds additional dynamics to the SM scene. Users normally have access to SM applications via desktops, laptops, tablets, mobile phones, game consoles and other devices, which results in a phenomenon of continuous

connection (Kaplan and Haenlein, 2010; Gutnick, *et al.*, 2011; Lenhart, 2015). Although scholars also relate this cross-device feature to the Internet addiction problem, they recognize that the convenience and accessibility of SM can also be attributed to it (boyd, 2014; O'Keeffe and Clarke-Pearson 2011; Kuss and Griffiths, 2011).

		Social presence or Media richness		
		Low	Medium	High
Self-presentation or Self-disclosure	High	Blogs	Social networking sites (e.g., Facebook)	Virtual social worlds (e.g., Second Life)
	Low	Collaborative projects (e.g., Wikipedia)	Content communities (e.g., YouTube)	Virtual game worlds (e.g., World of Warcraft)

Table 04: Classification of SM sites by social presence/media richness and self-presentation/self-disclosure [source: adapted from Kaplan and Haenlein, 2010]



Figure 01: China SM Landscape 2014 [source: adapted from Kantar Media CIC, 2014]  
(categories are stated in the inner circle, while the outer circle shows examples)



Figure 02: China Social Media Landscape 2016 [source: adapted from Kantar Media CIC, 2016] (categories are stated in the inner circle, while the outer circle shows examples)

For individuals, the diversity of SM services enables them to tailor usages according to their diversified needs (Quan-Haase and Young, 2010; Kietzmann, *et al.*, 2011). For example, a new parent who necessitates to learn parenting knowledge can interact with peers on parenting forums, while a politician can establish a personal election campaign profile Page on Facebook with a pre-set "Political Candidate" template (PederSen and Smithson, 2013; Doyle, 2013; Dalsgaard, 2008; Enli and Skogerbø, 2013; Williams and Gulati, 2013; Facebook, 2017). In this scenario, distinctive needs of a wide range of groups can be fulfilled (Bertot, *et al.*, 2010; Roberts and Candi, 2014; Correa, *et al.*, 2010). Therefore, communities with different personas can all emerge on SM (Laroche, *et al.*, 2012; Brown, *et al.*, 2007; Duggan, *et al.*, 2015). A significant consequence is that an ocean of manifold and valuable information is exchanged on SM (Agichtein, *et al.*, 2008; Heinonen, 2011). As research findings suggest, the quantity and quality of shared

knowledge on SM platforms grow with the increase of individual participation (Chang and Chuang, 2011). In this situation, businesses can benefit from the information abundance and accessibility. They can use the information to assist their decision making. They can also tailor among the varied channels to communicate with and involve customers in their business activities (Lagrosen, 2005; Mislove, *et al.*, 2011; Gensler, *et al.*, 2013; Chatterji and Fabrizio, 2014). However, the prerequisite is that the business adopt a vision and a flexible attitude to select and adopt the appropriate SM platforms and to update their SM knowledge (Hoffman and Fodor, 2010).

### **2.2.2[h] Many-to-Many Communication on SM**

A widely appreciated characteristic of SM information exchange is the many-to-many communication mode (Russo, *et al.*, 2008; Kaplan and Haenlein, 2010; Ellison and boyd, 2013). It allows anyone to participate freely, playing either the role of a listener, a speaker, or a forwarder. Within this setting, communications are not restricted to the intimate one-to-one relationships or the asymmetric one-to-many broadcasting. It allows a more dynamic dialogue, in which users switch between passive and active roles according to their willingness or conveniences rather than remaining at a static status (Labrecque, *et al.*, 2013). It significantly contributes to the decentralisation, deinstitutionalisation, or democratisation phenomena of communication. These can be reflected in the enthusiasm of listening to customers or citizens of businesses and public institutions (Hoffman and Fodor, 2010; Gallagher and Ransbotham, 2010; Berthon, *et al.*, 2012; He, *et al.*, 2013; Mergel, 2013).

For individuals, this feature does not only enable them to speak up and to interact with a greater group of peers, but also enables them to be heard by institutions and potentially influence institutional decision making (Hoyer, *et al.*, 2010; Rotman, *et al.*, 2011; Bertot, *et al.*, 2012; Ellison and boyd, 2013). From businesses' perspective, although they need to face the loss of control of the communication channels, they are winning new opportunities to have dialogues with customers, and to collect feedbacks, insights or ideas directly from customers (Carbonell, *et al.*, 2009; Lynch, *et al.*, 2016). These actions of seeking inputs from customers can reduce the uncertainty in their decision making.

The discussions above considered SM as a holistic category, and hence did not indicate that any single SM platform owns or displays or all the features. These discussions established a part of the knowledge background of the study through the synthesise of existing research findings of the features of SM communication. These features



determined how SM influences individual and commercial activities. To specify, it causes a phenomenon of customer and business empowerment and disempowerment cycles (Labrecque, *et al.*, 2013). This phenomenon is discussed in the next section.

### **2.2.3 The influences of SM on customers and businesses as customer and business empowerments and disempowerments**

#### **2.2.3[a] Customer empowerment**

As discussed above, SM enhances the accessibility and convenience of communication among individuals and organisations. In this situation, the communication hierarchy is largely broken down, while new space for community forming, continuous knowledge exchange and collaborative activities emerge (Faraj, *et al.*, 2011; Ellison and boyd, 2013).

Under the influences of the characteristics of SM communication, a phenomenon called "customer empowerment" has emerged and recognised by researchers (Cova and Pace, 2006; Umit Kucuk and Krishnamurthy, 2007; Labrecque, *et al.*, 2013). The phenomenon represents a power shift from businesses to customers. Two main drivers are observed to have fuelled this shift: (1) the increased flexibility of choices of products or services and their retail channels for customers; (2) the freedom and capabilities of customers to exchange information, which can influence their own, their peer customers' and businesses' decision makings (Cova and Pace, 2006; Füller, *et al.*, 2009; Kaplan and Haenlein, 2010; Labrecque, *et al.*, 2013). In this situation, the passive receiver and hearer roles of customers are converted to the proactive chooser of brands or offerings and contributor of feedbacks, opinions, appeals, and ideas (Cova and Pace, 2006; Muntinga, *et al.*, 2011; Heinonen, 2011; Roberts and Candi, 2014). Customers, who use to be passive in a business to customer dynamic, have become active decision makers and influencers of other individuals or organisations.

The first driver (the flexibility of product/service choices for customers) does not mean the increase of options, but emphasises customers' enhanced capability to construct a potential selection set of products/services. Wathieu, *et al.* (2002) pointed out that the sole growth of options can even cause cognitive overload to customers. It can lead to the reduce of quality of product or service choice, and hence lower level of perceived satisfaction of customers. However, customers' ability to construct and modify a potential selection set of product or services for purchase gives them a sense of empowerment. This capability is enabled by the ease of reaching information, peer individuals, and

commerce bodies on SM thanks to the characteristics of SM communication (Iacobucci and Hoeffler, 2016). In other words, it is the second driver of the power shift (see the previous paragraph) that enabled the first driver. In this case, customers are able to acquire the information from different sources that can assist them to determine the selection of potential purchases.

### **2.2.3[b] Customer disempowerment**

Scholars like Labrecque, *et al.* (2013) also argued that SM communication could disempower customers. The concern was rooted in increasing business practices of customer information collection without clear consents (Petty, 2000; Pierson, 2012; Nunan and Yeniciglu, 2013). A direct and possible consequence of these practices is the violation of personal privacy of customers. Research suggests that more than two third of individuals, who actually self-record data with mobile devices for better self-understanding, do not feel very comfortable in sharing these data with others (Ramirez, 2013; Labrecque, *et al.*, 2013). Hence, although being enabled to speak up on SM, if customers' "voices" are used by businesses without clear consents, they often feel a sense of disempowerment.

Another phenomenon of customer disempowerment that is referred to as "filter bubbles" that represents a restrained, biased, and over-personalised information distribution to individuals also surfaced and caught attentions from researchers and the public (Pariser, 2011; DiFranzo and Gloria-Garcia, 2017). In this situation, only contents that fit into ones' personal taste without the "interruptions" of different or conflicting perspectives will be visible to customers (Pariser, 2011; Easley, *et al.*, 2012; Labrecque, *et al.*, 2013). It is also a result of businesses' utilisation of customer information that is shared on SM. Companies, especially the SM platform providers, are observed to analyse the customer-shared personal information on SM to tailor the contents display to customers for customer attraction and retention (Hutchinson, 2017). As a result, this limitation of information access can be considered as a form of disempowerment of individuals. However, whereas businesses' design of algorithms has been accused for causing the issue, Bakshy *et al.* (2015)'s study based on Facebook reveals that personal choice is the more influential factor. In other words, it might not be the businesses or the SM information exchange mechanisms that disempower customers but individuals own behaviour or human nature (Baym, 2015; boyd, 2017).

### **2.2.3[c] Business disempowerment**

For businesses, the customer empowerment phenomenon can mean the loss of control of retail channels or marketing messages of their offerings (Labrecque, *et al.*, 2013; Kaplan and Haenlein, 2010). The result can be a disempowerment of the businesses. Scholars have raised the concern of increased uncertainties of marketing communication, customer relationship management or retailing management that can be caused by this power shift (Labrecque, *et al.*, 2013; Kaplan and Haenlein, 2010).

### **2.2.3[d] Business empowerment**

Researchers have also highlighted the potential businesses opportunities that co-exists under this phenomenon. Specifically, the SM communication mechanisms has eased the collection of customers' feedbacks, opinions, appeals, and ideas, which can provide insights for the enhancements of communication or retail strategies (Cova and Pace, 2006; Muntinga, *et al.*, 2011 ; Heinonen, 2011 ; Roberts and Candi, 2014). A large number of literature has provided inspiring insights about how SM UGC can be used by businesses in, for instance, sales prediction (Gayo-Avello, *et al.*, 2013; Asur and Huberman, 2010), targeted advertisement (Tuten, 2008; Tucker, 2014), and digital marketing (Hoffman and Fodor, 2010; de Vries, *et al.*, 2012).

Nevertheless, although literatures demonstrated that businesses can be empowered by SM, these existing discussions focused on product launch activities in late stages of the new product development (NPD) process (Ulrich and Eppinger, 2008; Olson, *et al.*, 2001). Merely a few studies suggest companies to harness UGC on SM in the front-end of innovation (FEI) in a NPD process to enhance product ideation (Roberts and Candi, 2014; Bartl, *et al.*, 2012; Antorini, *et al.*, 2012; Roberts and Piller, 2016; Bilgram, *et al.*, 2011; Martini, *et al.*, 2014; Carr, *et al.*, 2015). Therefore, questions like if SM can be involved in the FEI and how it could be used for FEI activities remains largely unsolved. This gap of research provided the major investigation opportunity for this study.

In accordance with the literatures, the involvement of SM in FEI may empower both customers and businesses. It re-empowers businesses by providing a new source of customer insights that can inform new idea or concept generation (Roberts and Candi, 2014). At the meanwhile, it empowers customers by letting them express their demand to businesses and influence businesses' products/services offers (Labrecque, *et al.*, 2013). This potential benefit reinforced the opportunity of this study.

### **2.2.3[e] Summary**

In summary, literatures suggest that SM communication can cause two cycles of customer and business empowerment or disempowerment. In the first cycle, customers are empowered, as information exchanged on SM provides them increased flexibilities of product/service and retail channel selection (Cova and Pace, 2006; Umit Kucuk and Krishnamurthy, 2007; Füller, *et al.*, 2009; Kaplan and Haenlein, 2010; Labrecque, *et al.*, 2013). On the other hand, businesses are disempowered due to the loss of control of product/service distribution and marketing communication. This cycle resulted in changes in customers' purchase decision making behaviour (Edelman, 2010; Edelman, 2010; Edelman and Singer, 2015). Section 2.2.4 presents existing knowledge about the new customer decision making process, while a part of the empirical study endeavours to discover new and more detailed findings.

In the second cycle, businesses are re-empowered by SM, as they collect information that customers share to inform their business decision making (Labrecque, *et al.*, 2013; Cova and Pace, 2006). In this case, customers are partially converted to the disempowered party, as their information are used for businesses' benefits. However, they are also rewarded with another empowerment as they can directly communicate their demands to businesses through SM (Kaplan and Haenlein, 2010; Labrecque, *et al.*, 2013). A great number of existing researches confirmed that businesses' market launch activities in the rear-end of NPD can benefit from the involvement of SM (Romero and Molina, 2011; See-To and Ho, 2014; Dellarocas, *et al.*, 2007; Kim and Ko, 2012; Tuten, 2008; Hoffman and Fodor, 2010; Felix, *et al.*, 2017). More studies are needed to identify the effect of SM involvement in businesses' FEI activities (Roberts and Candi, 2014). Section 2.2.4 and 2.3 of the literature review endeavours to study existing knowledge that is relevant to this topic, while the other part of the empirical study was designed to explore responses to this knowledge gap.

### **2.2.4 The Social Media Driven Customer Decision Journey (SM-driven CDJ)**

Based on the established understanding of social media (SM) in the preceding sections, this section aims at the discussions of existing findings of SM's impact on customer decision-making process. It is one of the two themes of this research, which also provides initial implications of how businesses' customer research activities in the front-end of product innovation might be influenced (more reviews about this topic is presented in Section 2.3).

In accordance with the researcher's observation, whereas the academic discourse in this domain provides rigorous theories, evidences and reasoning, it lacks a comprehensive modeling of the customer decision-making process in the SM context (Pellemans, 1971; Engel, *et al.*, 1968; Teo and Yeong, 2003; Darley, *et al.*, 2010). On the other hand, business consultancies like McKinsey & Company proposed a clear and concise model with continuous discussions based on a large quantity of commercial cases, though data were missing for validation due to business confidentiality (e.g., Court, *et al.*, 2009; Edelman, 2010, Edelman, 2010, Edelman and Singer, 2015). Cross-references can be rarely found between the academic and industrial discourses in this domain (Hudson and Thal, 2013). Therefore, this chapter endeavours to bring these two groups of thoughts together, with an anticipation of proposing a comprehensive SM-driven CDJ model. The influences from SM will be pinpointed through the lens of: "How the changes of consumer decision making process caused by SM affect businesses' practices in the customer research activities in the front-end of the new product development (NPD) process?"

#### **2.2.4[a] The McKinsey & Company Customer Decision Journey (CDJ) Model**

As stated in the Introduction, this study is inspired by the McKinsey & Company customer decision journey (CDJ) model (Court, *et al.*, 2009; Edelman, 2010; Edelman and Singer, 2015) because of its notion of customer behaviour changes under the influence of SM. Although it is neither published in peer-reviewed journals, nor supported by the detailed display of data or methodology, it is the only comprehensive model of customer decision process in the context of SM. Academic research lacks such conceptualisation. Also, according to the consultancy, the proposal of the model was based on recent studies of decision-making behaviour of more than 20000 customers in automobiles, skin care, insurance, customer electronics, and mobile telecom sectors across three continents (Edelman, 2010). It means that the evidences are potentially rich, generalisable and recent. Despite that the model was only proposed in 2009 (Court, *et al.*, 2009), it has been under continuous updates with new consultancy cases conducted by the firm. In summary, because of its comprehensiveness, focus on SM environment, potentially rich evidences, generalisability, recency, and coherency as a conceptualisation, the McKinsey & Company CDJ model was adopted in this study for the construction of the theoretical framework. The following sections critically review the McKinsey & Company CDJ model, which also includes a section that introduces the current Chinese baby diaper customers decision making behavior as the market context of the empirical study.

## **A.Processes and activities in the CDJ Model**

### **(1) The “Trigger” and “Consider” phases**

The description of the CDJ model demonstrates that the customer decision-making activities starts with a group of potential brands and products/services to choose from once they are “triggered” by the need to purchase a product (Court, et al., 2009) (see Figure 03 for the model illustration). It is referred to as the “consider” phase. The initial selection of products is formed based on impressions of brands or products that customers unconsciously gained through their passive exposure to information on a daily basis. This is a prelude of customers’ active decision-making activities driven by SM.

### **(2) The “Active evaluation” phase**

Based on the initial selection of products for consideration, customers move onto the "active evaluation" phase (Court, et al., 2009; Edelman, 2010). In this phase, they search for more information about the selected brands and products. They also look for alternatives. Based on the information they found, they actively evaluate different options of brands or products. McKinsey & Company's survey data suggests that online customer product reviews, word-of-mouth (WOM) from close social circles, communications or involvements in shops, and prior brand/product experience have overtaken messages or incentives pushed by marketers to be the major information sources. Alternative options are usually added into the consideration group, which are all assessed against customers' needs. Options that meet their criteria are brought in or kept in the "consideration set", whereas less suitable ones are removed. At the end of this stage, customers are ready to make a decision of which product to purchase.

### **(3) The “Buy” phase**

After information seeking and evaluation, a choice of the final product or brand is made by customers at the “buy” step followed by transactions (Court, et al., 2009; Edelman, 2010). However, customers demonstrate a considerable level of possibility to alter their decisions at this stage under the influences of shelf positions, package design, prices, sales communications, and product stocks.

### **(4) The “Enjoy” phase**

Although customers’ purchase decision is made and processed at the end of the “buy” step, they are only half-way through the entire decision journey. After transactions, customers utilise the purchased products/services to fulfill their needs and actively assess their own usage experience (Court, et al., 2009). It is classified as the “enjoy”

stage in the McKinsey CDJ model (Edelman, 2010). When required, they may seek for more information online to assist product/service usage.

#### (5) The “Advocate” phase

If the experience fulfills their needs and or expectations, they might "advocate" a positive word-of-mouth (WOM) of the product/service or brand (Edelman, 2010; Zhu and Zhang, 2010). The positive WOM can potentially attract other individuals to consider the same product, service or brand.

#### (6) The “Bond” phase

The positive usage experience might also contribute to customers’ brand loyalty (Edelman, 2010). If the loyalty is sufficiently robust, it can drive customers to repeat the purchase without going through the "consideration set" forming and "active evaluation" phases. In this situation, the customers are “bonded” with the product or brand. On the other hand, the model indicates that a non-loyal customer enters another whole CDJ, once they are triggered by the needs again. They may consider the past product/service or brand experience as inputs to assist the information search and evaluation activities.

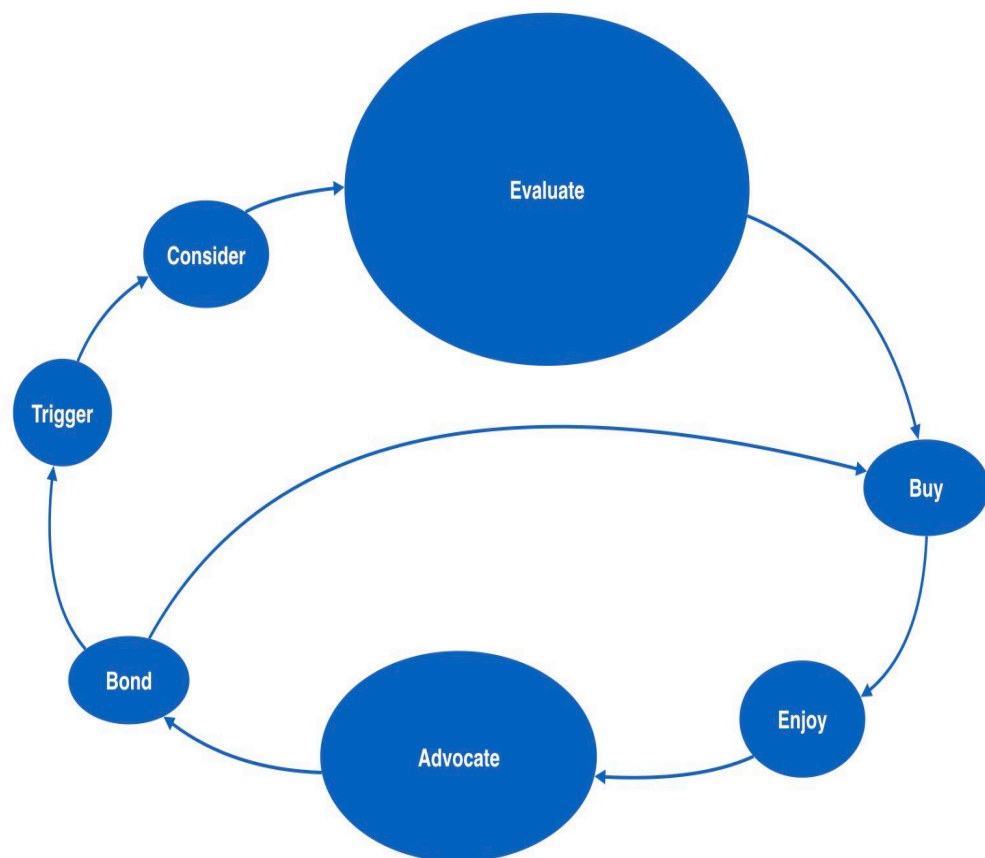


Figure 03: The McKinsey & Company SM-driven CDJ model [adapted from Court et al., 2009; Edelman, 2010; Edelman and Singer, 2010]

## **B.The impact of SM on customer decision-making process and activities**

According to McKinsey & Company, the impact of internet or digital media environment on customer decision-making behaviour can be mainly observed in 4 aspects: (1) the reduced significance of "consider" stage or "initial consideration set" establishment; (2) the expanded pre-purchase information search and evaluation activities; (3) the increased power of post-purchase activities; and (4) the need to alter the symbolic shape of the decision-making model (Court, *et al.*, 2009; Edelman, 2010; Edelman, 2010; Maechler, *et al.*, 2016).

Court, *et al.* (2009) pinpointed that, due to the fragmentation of media in the online or digital environment (Ward and Lee, 2000; Nelson-Field and Riebe, 2011), the sizes of customers' "initial consideration sets" have significantly reduced compared with the past. In this situation, the "consider" phase, in which customers' passive exposure to marketing materials of brands plays the main role, faded out in customers' decision-making process to some extent. However, more brands products are added during the active information search and evaluation phase. In this phase, customers proactively consult peer customers' product reviews or close social circles' recommendations to assess different products. These observations imply that the essence of the change is not the number of considered brands or products, but how customers take brands into consideration. In the SM era, customers no longer rely on their passive exposure to producers or retailers' marketing messages to establish the group of product candidates. Instead, they actively acquire information from third party sources. This change suggests a transition of power from brands' marketing materials to non-commercial information. Another power shift that is from the "consider" phase to the "evaluate" phase in the CDJ can also be observed.

As indicated above, two facets of the transformation in the information search and evaluation phase of the customer decision process can be observed (Court, *et al.*, 2009). First, the scale and significance of the phase has significantly increased. Additionally, customers' active approach to online peer product reviews, WOM information from family members and friends, interactive experiences in shops, and past product usage experiences overtook their receptions of marketing information pushed to them by the firms (Court, *et al.*, 2009). It has been suggested in literatures that customers are conducting more active searches, because the internet provides access to information at significantly reduced costs (Ward and Lee, 2000). In this situation, customers are more proactive and needs driven when making purchase decisions and are less affected by brands' marketing efforts. To help businesses face this change, McKinsey & Company



have been focusing on providing advice that is related to marketing, sales, or customer experience management strategies (Court, *et al.*, 2009; Edelman, 2010). They did not offer suggestions about how this change might influence businesses' FEI activities. However, their urge for businesses to "listen to" customers' online conversations during product search and evaluation activities merits attention (Edelman, 2010). As other studies indicated, businesses may be able to identify customer needs from their online conversations, which could benefit FEI activities (Maechler, *et al.*, 2016; Veryzer and Borja de Mozota, 2005; Cui and Wu, 2016).

Like pre-purchase information search and evaluation activities, customers' post-purchase activities are also found to be more influential on customers' purchase decision-making (Court, *et al.*, 2009). Customers might look for more information about the purchased products/services. The information can affect customers' sense of satisfaction apart from the actual product usage experiences. Their satisfaction level determines whether they would select the same product/service or brand, while triggers them to publicly share positive or negative WOM. The WOM can in turn influence other customers' product/service choice, especially through pre-purchase activities (Bughin, 2015). From the customer relationship management perspective, McKinsey & Company advice businesses to resolve customers' product usage (Edelman, 2010; Edelman, 2010; Edelman and Singer, 2015). They also suggests businesses to establish strategies to influence customers' WOM activities. Indications about FEI activities are not found in their articles. However, it is reasonable to hypothesis that businesses could analyse customers' positive and negative WOM to gain insights about customer needs (Ernst, *et al.*, 2011). These insights could potentially inform the generation of new product ideas in FEI.

Finally, unlike the traditional customer decision process models that are linearly illustrated (Engel, *et al.*, 1986; Engel, *et al.*, 1995; Blackwell, *et al.*, 2001; Blackwell, *et al.*, 2008) (see Section 2.2.4[b] for more details), the McKinsey CDJ model adopted a "loop" shaped visual presentation (Court, *et al.*, 2009; Edelman, 2010). It indicates the continuity of customer decision-making in the digital era (Court, *et al.*, 2009; Edelman, 2010). The usage of a product/service does represent the end of decision-making, as the usage experience is constantly fed back to new CDJs of the same customers or others. They can act as cues of "initial consideration set" establishment or information source for the "active evaluation" phase. The circular illustration appears to more accurately represent a SM-driven customers' decision-making process that is not a linear in nature nor has a definitive starting and end point.

### **C.Limitations of the McKinsey and Company SM-driven CDJ Model**

The advantages of CDJ model proposed by McKinsey & Company are apparent (Court, *et al.*, 2009; Edelman, 2010). It is a comprehensive and generalised conceptualisation of customer decision-making behaviour that highlights the influences of online or digital media environment. However, three weaknesses or considerations are also noteworthy, since they could affect the adoption of this model in this study.

First, the context of the model was set in the entire online media ecology without the focus of SM. Therefore, additional understandings about social media are needed when adopting this model. The reviews of SM related literatures presented in the previous sections can help to address this issue.

Secondly, evidences that were used to construct this model were collected from markets of large sizes (Edelman, 2010a; Court, *et al.*, 2009; Edelman and Singer, 2015a; Edelman, 2010b; Edelman and Singer, 2015b). In these markets, product choices are abundant. Hence, if the model is generalisable in other market settings may be questioned. As this study is also based in a large-size market (the Chinese baby product market), it is reasonable to adopt this model as a part of the theoretical framework. However, the researcher will take the limitation into consideration when assessing the findings.

Finally, the CDJ series of publications were targeted at providing business suggestions about marketing communications, sales, and customer experience management strategies (activities at the rare end of NPD). There is a lack of discussions from the FEI perspective. Hence, additional FEI related literatures are needed to construct the theoretical background for this study (see Section 2.3).

### **2.2.4[b] The Engel-Blackwell-Miniard Customer Decision Model (EBM Model)**

This research adopts the Engel-Blackwell-Miniard Customer Decision Model (EBM Model) as the academic knowledge foundation for the construction of the SM CDJ model (Engel, *et al.*, 1986; Engel, *et al.*, 1995; Blackwell, *et al.*, 2001; Blackwell, *et al.*, 2008). Other relevant academic findings are also presented in this section.

#### **A.Justification of the adoption of the EBM model**

Since the introduction in 1968 by Engel, Kollat, and Blackwell (Engel, *et al.*, 1968), repeated citations, adaptations, amendments, and elaborations of the EBM model were conducted by both the original authors (Engel, *et al.*, 1986; Engel, *et al.*, 1995; Blackwell,

*et al.*, 2001; Blackwell, *et al.*, 2008) and other scholars (Hoyer and MacInnis, 2004; Solomon, 2014; McCarthy and Perreault, 1993; Milner and Rosenstreich, 2013). These continuous adoptions and developments have enriched and strengthened the model with knowledge updates and critics in the customer behaviour domain, while maintained a trackable theoretical consistency of it (Bray, 2008). These are the reason why the EBM model is adopted in this study.

Another reason of the selection of EBM Model is its intrinsic appropriateness for this study as an "analytic cognitive model" defined by Bray (2008). Fundamentally, the cognitive approach views customer decision-making behaviour as an information processing activity (Hsu, *et al.*, 2012; Solomon, 2014; Lachman, *et al.*, 2015). As stated in the preceding texts, SM has caused changes in the dynamics of information exchange activities among customers and businesses, which is reflected in the customer decision process. Therefore, it can be viewed that customers' decision-making behavior changed in the SM era as SM altered the way they receive and submit information. Hence, it is appropriate to utilise the cognitive approach based EBM model to investigate SM's impacts on CDJ. Other approaches to customer behaviour, like the economic hypothesis (Blundell, 1988), psychological approach (Bilkey, 1953), behavioural approach or means-end theory (Reynolds and Whitlark, 1995), and humanistic approach (Natarajan and Bagozzi, 1999; Bray, 2008) are adopted to provide additional knowledge.

Within the cognitive discourse, Bray (2008) identified two branches of customer behaviour modelling methods as "analytic cognitive models" and "prescriptive cognitive models". The EBM model resides in the former branch. This "analytic" fashion centres on the illustration of key stages in a customer decision process with a presentation of key factors that influence customer decision-making. It can be used as a framework for customer behaviour comprehension and conceptualisation. The latter category is comprised of models with an emphasise on the causal links between customers' attitudes and behaviours, which is widely used among marketers for customer purchase intention prediction and influencing in the occidental context (Ajzen and Fishbein, 1975; Ajzen, 1985; Bray, 2008). As this study targets the investigation of how social media affects the overall customer decision-making process, the former (analytic) discourse demonstrates a better suitability and scope, while the latter can be adopted as one influencing factor of customer decision-making. As the McKinsey & Company model (Court, *et al.*, 2009; Edelman, 2010) focuses at demonstrating processes in CDJ without investigating causal links between individuals' mental status and actions, it can be categorised into the analytic group of models. Therefore, the EBM and McKinsey CDJ

models are of the same fashion. As the McKinsey model is adopted, it is reasonable to involve the EBM model.

Among the “analytic cognitive models”, the Nicosia (1966) model of Customer Decision Process, Howard and Sheth's (1969) Buyer Behaviour Model, and the EBM Model (Blackwell, *et al.*, 2001) are the three most established ones (Teo and Yeong, 2003; Bray, 2008; Brosekhan, *et al.*, 2013). However, there is a lack of evidences that support the validity of Nicosia (1966) model. Howard and Sheth (1969)'s proposal does not differentiate individual customers and industrial buyers. Also, the two models have been rarely cited recently. Therefore, their viabilities are not adequate for this study (Milner and Rosenstreich, 2013). On the other hand, as the EBM model (Blackwell, *et al.*, 2001) provides a relatively comprehensive and detailed framework for studying customer decision process, which is supported by constant citations and revisits, it meets the theoretical needs of this research (Bray, 2008).

## **B. Discussions of phases in the EBM model**

A 7-step sequential consumption decision-making flow comprised of "need recognition", "search" for information internally and/or externally, "pre-purchase evaluation of alternatives", "purchase", "consumption", "post-consumption evaluation", and "divestment" have been established as core framework of the EBM model (Blackwell, *et al.*, 2001) (see Figure 04). This section reviews all the phases and compare them with the McKinsey CDJ model. The aims are to construct a synthesised model that brings both groups of knowledge together and highlight the influences of SM on customers' decision-making process. Other relevant academic knowledge are also involved to support the synthesis.

### **(1) The “Need Recognition” phase**

A customer enters the process with the realisation of a gap between their current situation and an aspired status (Bruner and Pomazal, 1988). According to Blackwell *et al.* (2001), the need recognition is derived from environmental and individual factors. is observed to be individuals' internal cognitive activities that occurs in their mind (Bruner and Pomazal, 1988; McCarthy and Perreault, 1993). It can be considered as the "Trigger" phase in the McKinsey & Company model, though evidences are inadequate for an in-depth comparison.

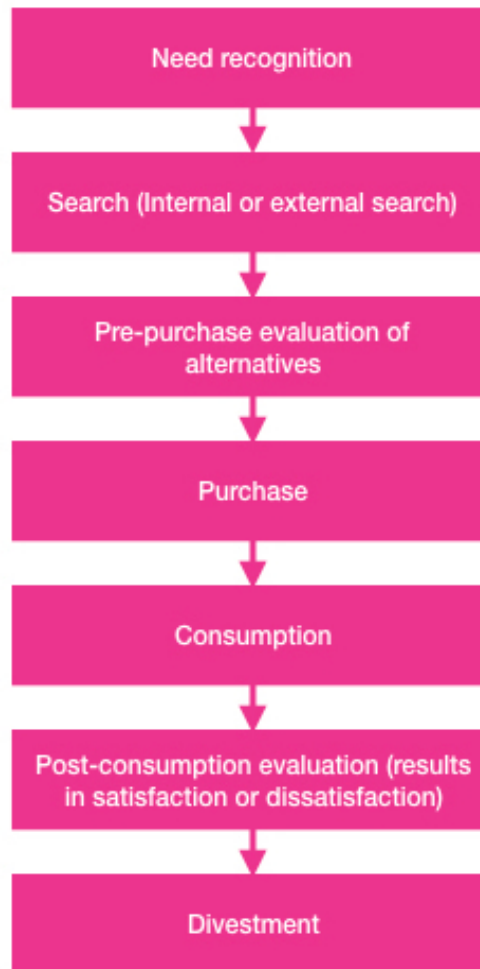


Figure 04: The Engel-Blackwell-Miniard Customer Decision Model (EBM Model)

[Source: adapted from Blackwell, et al., 2001]

## **(2) The “Search” and “Pre-purchase Evaluation of Alternatives” phases**

In the EBM model, the realisation of need leads customers to "search" for information about how to reach their desired situation (Blackwell, *et al.*, 2001). The purpose is to reduce their perceived risk of purchase, which is comprised of uncertainty level of the purchase decision and possible negative results caused by an adverse decision (Mitra, *et al.*, 1999; Peterson and Merino, 2003). Eight types of perceived risks of purchase decision-making are identified in the literature: (1) financial risk, (2) product/service performance risk, (3) physical risk, (4) psychological risk, (5) social risk, (6) time risk, (7) opportunity cost and (8) personal data safety risk (Jacoby and Kaplan, 1972; Bettman, 1973; Bhatnagar, *et al.*, 2000; Kim, *et al.*, 2008).

This information-seeking step in the customer decision process in EBM model is determined to be a focus of this study. It is because this study is adopting an 'information processing perspective' (see Section 2.3.2[a]), as SM fundamentally changes

customers' decision making process and activities through altering their approaches to product information (Court, *et al.*, 2009). Another significant reason is that McKinsey & Company's findings suggest a vast expansion of information acquisition activity in the digital infused customer decision-making activities (Edelman, 2010).

The researcher determined to include the "Pre-purchase Evaluation of Alternatives" of the EBM model in the same stage as "Search". It is because the McKinsey & Company CDJ model implies that, with the influence of SM, customers tend to acquire information about products and compare between different options iteratively (Court, *et al.*, 2009; Edelman, 2010; Edelman and Singer, 2015). In other words, in the SM era, the flows between the "search" and "evaluate" phases are no longer linear, but iterative. Therefore, the discussion of "search" and "pre-purchase evaluation of alternatives" are both included in this section.

In the "search" step of the EBM model, customers either examine memories of past experiences and observations, or acquire information externally from relatives, friends, or business bodies, for instance (Blackwell, *et al.*, 2001). Hoyer and MacInnis (2004) stated that individuals' first reaction is usually to seek solutions from their memories of brands, characteristics of a product or service, a judgement or sentiment of a product or service, or usage experiences. Therefore, "internal information search" is the first part of the "search" phase in the EBM model (Blackwell, *et al.*, 2001; Solomon, 2014). As this "consider" stage in the McKinsey CDJ model (see Figure 04) also refer to customers' internal information search and processing activity, it can be viewed as the equivalence to "internal information search" part of the "search" phase in the EBM model (Court, *et al.*, 2009; Edelman, 2010). It added customers' passive exposure to marketing communication materials and passive encounters of reference groups' product opinions to this step (Edelman and Singer, 2015). These passive information receptions allow consumers to establish an internal information bank in their minds and form an initial consideration set of products/services to bring to later stages of decision-making.

The EBM model suggests that, when internally sourced and passively received information cannot suffice the customers, they conduct external information search to seek solutions (Blackwell, *et al.*, 2001; Bray, 2008). Therefore, the "external information search" activity can be considered as the second half of the "search" phase in the EBM model. The external information sources include shops, marketing communication material, peers' WOM, sample trials, online product reviews (Bruner and Pomazal, 1988; Powers, *et al.*, 2012). In the McKinsey CDJ model, both "external information search"

and “alternative” evaluation activities are included in the “evaluate” phase (Court, et al., 2009; Edelman, 2010). The misalignment between the EBM model and the SM-focused McKinsey model indicated the influences of SM. As the McKinsey model suggested, SM separated “internal information search” and “external information search” activities and combined the latter with the “product alternatives evaluation” activity.

McKinsey & Company (Edelman, 2010)'s findings indicated that the importance and extensiveness of internal information search significantly reduced due to the influence of SM. It is because SM significantly empowered individuals with increased accessibility and convenience of information seeking (Labrecque, et al., 2013). The changes in customers' information seeking activities can be considered as a predominant impact from SM. Hence, more knowledge reviews in this domain are conducted and presented in later sections.

### **(3) The “Purchase” phase**

After the purchase decision is made, customers reach the chosen retail channel and process the transactions (Blackwell, et al., 2001). However, their decisions on retailers or products/services might alter at the last-minute due to new information or situations that they encounter at the moment of purchase. The new signals or conditions can include in-store promotions, salesperson's recommendations, and store closure. In this case, an in-store decision-making is conducted. Scholars found that similar situation also occurs in online retail channels (Keller, 2010; Alastair Holmes, et al., 2013).

With the influences of SM, customers have adopted a more proactive approach in information reception (Labrecque, et al., 2013). Also, peer customers' product reviews have emerged to be a crucial factor that affects customers' decision-making, which overtake marketers' and retailers' promotion endeavours (Chen and Xie, 2008; Lee, et al., 2008; Smith and Anderson 2016). Therefore, the factors mentioned above may no longer be influential as they are passive receptions of brands/retailers-generated messages. McKinsey & Company's insights suggested that the digitally influenced customers still tend to alter their decisions when they are at the “purchase” stage (Edelman, 2010). However, this decision alteration action is consciously conducted. Customers in the digital era demonstrated the propensity to postpone their final product choice to the “purchase” stage. This action pattern was observed regardless of product categories, and open to be influenced by various stimuli. It is probably because customers are always equipped with sufficient information sources thanks to SM (Labrecque, et al., 2013; Edelman and Singer, 2015; O'Brien, 2011). For example, they

can read customers' product reviews that are displayed on an e-commerce site when they are about to make transactions (Zhu and Zhang, 2010; Zhang, et al., 2010). In conclusion, the "purchase" stages in both EBM model and McKinsey CDJ model involve similar activities (arrival to retailer, rethink about the purchase decision), and share the same result (transaction). However, the style of customers' behavior changed from passive (in the EBM model) to proactive (in the McKinsey CDJ model) because of the influence of SM or digital media.

#### **(4) The "Consumption" and "Post-Purchase Evaluation" phases**

After paying for the chosen product or service, customers will use it to fulfill their needs or solve their problem (Blackwell, et al., 2001). It is referred to as "consumption" phase in the EBM model. Following consumption, customers evaluate the product or service. This product/service assessment activity occurs in the "post-consumption evaluation" stage of the EBM model. It results in the customers' perceptions of different levels of satisfaction or dissatisfactions about the product/service (Gardial, et al., 1994), which can affect customers future product/service choice and trigger word-of-mouth activities (Anderson, 1998; Brown, et al., 2005; Hennig-Thurau, et al., 2004). However, the EBM model did not indicate customers' actions triggered by their different satisfaction levels.

In the McKinsey & Company CDJ model, both the "consumption" and "evaluation" phases can be considered as included in the "enjoy" stage (Court, et al., 2009). The CDJ model described that customers iteratively use and evaluate the product/service, while searching for new information to support the usage and evaluation. This description first indicates that customers iteratively use the product and evaluate their experiences, instead of linearly terminate the usage actions before starting the assessment. Second, it revealed that customers may search for more information at this stage. It might be because SM provided higher level of information accessibility and abundance to the customers (Cheong and Morrison, 2008; Peterson and Merino, 2003; Labrecque, et al., 2013; Edelman, 2010). With the recognition of these 2 indications, his study adopts the McKinsey CDJ modeling of this stage. However, the vocabulary of "enjoy" is not appropriate, as customers may be dissatisfied with the product/service (Blackwell, et al., 2001). Hence, this study names this stage as "product evaluate and usage".

Unlike the EBM model (Blackwell, et al., 2001), the McKinsey model (Court, et al., 2009) demonstrated and emphasised customers' reactions after product evaluation. It suggested that customers publicly "advocate" for the products that satisfy them. This publication advocate is enabled by digital media that provided individuals accessible



channel to share information. Therefore, one influence of SM or other digital media on customers' decision-making process can be viewed as customers' increased tendency of sharing their product usage experience online. However, the McKinsey CDJ model did not discuss if customers also share negative product/service experience online.

The McKinsey model also suggested that, if customers are repeatedly satisfied by the products/brands, they may "bond" with them (Court, et al., 2009). In this situation, they will not go through the whole CDJ again to choose a new product but directly purchase the satisfying one when they need it. The EBM model did not illustrate this step in the customer decision process (Blackwell, et al., 2001).

Customers' behavioural changes in these post-purchase usage, evaluation, and voicing stages can be regarded as another significant impact of SM on customers' decision-making process. Therefore, more literature reviews about these stages are conducted and presented in later texts.

#### **(5) The "Divestment" phase**

The last phase of the EBM model illustrates how customers handle the goods after usage (Blackwell, et al., 2001). At this stage, customers need to decide whether to continue usage, make new use of the goods, put away, let/loan/lent them, abandon them, recycle them for material re-use purposes or pass it to other customers with or without economic compensations (Lane, et al., 2009; Thierry, et al., 1995; Spengler, et al., 1997; Michael, et al., 1999).

Although this step is not the focus of this research, in current social and environmental context that desiderates higher level of sustainable practices, enabling a more responsible and less impactful consumption behaviour through product design might worth considerations (Tukker, et al., 2008; Michaelis, 2003; Lorek and Spangenberg, 2014; Hirschl, et al., 2003; Niinimäki and Hassi, 2011; Tseng, et al., 2013; Van Nes and Cramer, 2006; Marchand and Walker, 2008). The influences of social media on this step include, for example, providing new information channels for people to learn sustainability (Langley and van den Broek, 2010; Minton, et al., 2012) and to facilitate actions through collaborations, gamifications and other motives (Petkov, et al., 2011; Segerberg and Bennett, 2011; Hamari, et al., 2015; Jaeger-Erben, et al., 2015). Businesses focused on the development of sustainable products or services might be able to enhance their performances through communicating with, listening to, and involving customers.

In summary, the EBM model demonstrates a consistency in theory development with rich inputs of empirical findings, an ability to comprehensively illustrate customers' purchase decision-making process and activities, and a flexibility to be borrowed to discussions in the social media or internet context (Bray, 2008). However, it is also criticisable for (1) being too generic, (2) being vague and incomplete in displaying influencing factors, (3) being developed based on the rational assumption of customer decision-making behaviour, (4) implying a linear model, (5) the unobservable nature of some of the components, and (6) the uncertainty of its predictive capability. The adoption of the EBM model in this study take considerations of both the advantages and the critics or weaknesses.

### **C.Customers' external information search activities**

In decades of academic research about customers' external information search activities, scholars have demonstrated interests in source of information, typology of search, and factors determining search efforts (e.g., Nicosia, 1966; Bloch, et al., 1986; Schmidt and Spreng, 1996; Blackwell, et al., 2001). Recently, studies focused on the influence of online or internet environment also have been added to the scene (e.g., Peterson and Merino, 2003; Pan and Zhang, 2011). In the following texts, discussions each of the traditional interest area of external search are presented individually with relevant findings of internet influence.

#### **(1) Source of Information**

In customers' external information acquisition activities, common information sources utilised by them include: (1) product providers' marketing efforts including personal selling, advertisement, packaging display, and information catalogues; (2) retailers' product information material; (3) third-party groups' not-for-profit publications like magazine article and customer rights groups' guides; (4) word-of-mouth from personal connections; and (5) customers' first-hand experience through trial or sample products (Schmidt and Spreng, 1996; Peterson and Merino, 2003). With the influence of SM, a vast growth of dependency on personal word-of-mouth (WOM) information, whereas a reduced trust towards product providers' and retailers' messages are observed among customers (Kaplan and Haenlein, 2010; Cheong and Morrison, 2008). For example, Bickart and Schindler (2001)'s 12-week experimental study revealed greater influences of information from online discussion forums on customer decisions than those from businesses' official websites.

## **(2) The influences of peer-created online product reviews on customers**

Several findings about the influence of online customer product reviews on individuals' purchase decision-making are worth noting. Studies suggest that not only the acquaintances' views do customers consult and employ, but they also highly trust and frequently refer to, for example, strangers' online product reviews (Chevalier and Mayzlin, 2006; Dellarocas, et al., 2007; Gretzel and Yoo, 2008; Zhu and Zhang, 2010; BrightLocal, 2010; Pan and Zhang, 2011; Smith and Anderson, 2016; BrightLocal, 2016). This expands individuals' trust scope or even redefines customers' social circle in the social media environment.

In addition, peer reviews can extend customers' length of web page stay, but only for experience goods (whose product quality information is difficult for customers to access or judge) not search goods (the acquisition and judgement of the product quality information is easy for customers) (Huang, et al., 2009; Park and Lee, 2009). It might be a result of higher demand of cognitive endeavour in processing information of experience goods (Garbarino and Edell, 1997; Huang, et al., 2009). In other words, product types can affect SM's influences on customers' external information search behaviour in the decision process.

Past studies also revealed higher impact of negative product reviews or WOM information than their positive counterpart on customer decision-making (Bronner and de Hoog, 2011; Lee, et al., 2008; Sen and Lerman, 2007). However, it is only found within utilitarian product type but not hedonic goods. The reason can be that customers tend to attribute the objective negative reviews of utilitarian goods to product performances whereas perceive hedonic product experience as mainly subjective.

Finally, Zhu and Zhang (2010)'s analysis of video game and game console sales data and customers' online reviews identified that online reviews are more influential for less distributed online games and among relatively proficient internet users. In other words, different statuses of products or customers receive different influences from the customer-created product reviews online. These findings and factors provide valuable references for the formation of questions in the main study, and the analysis of the case study.

## **(3) Level of efforts of customers' external information search activities**

The information search about products can occur as different levels of problems solving activities depending on the familiarity, complexity, significance of the consumption

decision in customers' perceptions (Hoyer and MacInnis, 2004; McCarthy and Perreault, 1993; Solomon, 2014; Blackwell, et al., 2001). Specifically, perceived significance, perceived risk, symbolic value, and emotional value of a product/service or the purchase and consumption of it are the influencing factors (Laurent and Kapferer, 1985).

As a result of the influencing factors, customers' external information search activities can be categorised into 3 levels of problem solving activities: (1) Extended problem solving; (2) limited problem solving; and (3) routinised problem solving (McCarthy and Perreault, 1993; Hoyer and MacInnis, 2004; Engel, et al., 2006) (see Figure 05). A newly occurred, sophisticated problem that is emotionally related to customers requires an extended information searching from various sources. In contrast, a simpler, more familiar, and more functional issue may involve only limited customer efforts, and straightforward repeated daily purchases can be solved with routinised consumption actions (Nicosia, 1966; Blackwell, et al., 2001). For example, a new parent without any knowledge of diaper products, who is highly concerned about the safety, health and comfort of her infant, might acquire a large amount of information through various sources for making the purchase decision. Two months later, when the parent is familiar with the characteristics of both her infant and the diaper product and is satisfied with the diaper usage, (s)he may repeatedly purchase the same product(s) without any additional investigations. In general, the decision-making becomes simpler with time, unless internal or external situation shift significantly, as customers learn from past experiences (Beatty and Smith, 1987; McCarthy and Perreault, 1993). Shopping for daily food usually occurs as unplanned buying or in-store decision-making, since the products involved are normally familiar daily goods for the customers (Inman, et al., 2009; Hui, et al., 2013).

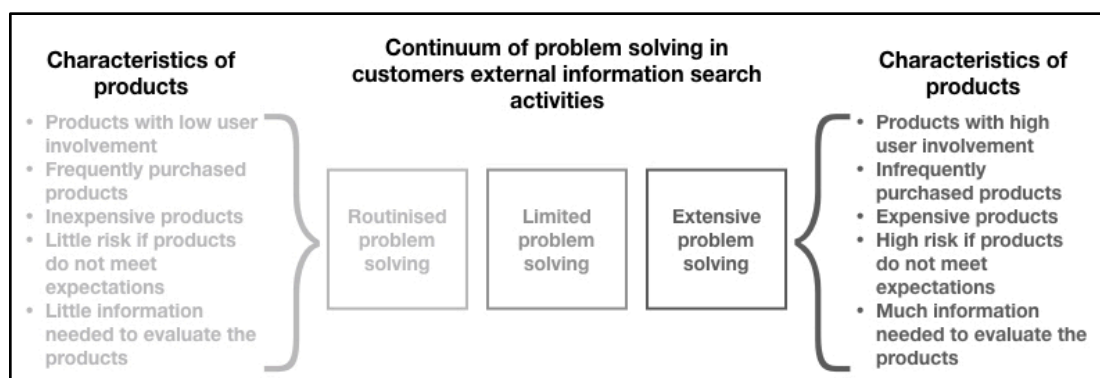


Figure 05: Three levels of problem solving as three types of customer external information search activities [source: McCarthy and Perreault, 1993]

However, Guo (2001) pinpointed that empirical studies revealed inverted U-Shape or U-shape correlations between efforts of search and customers' prior product knowledge. For example, Rao and Sieben (1992)'s study of female fashion customers suggests that those with the least and highest level of product knowledge demonstrated higher endeavour of information search than those with medium amount of knowledge. On the contrary, in studies about automobile and microwave products, without gender specifications, greater efforts were identified among customers with moderate level of product knowledge than those with lower or higher levels (Bettman and Park, 1980; Johnson and Russo, 1984). Guo (2001) explained that the product category and demographic (gender) factors caused the difference in findings. Another indication is that the factors, which determine customers' external search extensiveness, can also cross-influence each other. More discussions of the antecedents of external search effort can be found in the section "Antecedents of Search Efforts".

#### **(4) Need recognition triggered information search and ongoing search**

Apart from information search triggered by need recognition, some customers have been known to conduct on-going search about product or services as a hobby or entertainment, for knowledge mastery, and for long-term engagement with the product/service or the brand (Hirschman and Holbrook, 1982; Bloch, et al., 1986; Feick and Price, 1987; Michael, et al., 1999; Peterson and Merino, 2003) (see Table 05). While enhancing future shopping efficiencies, this activity might also cause impulsive purchases. With the flexibility, accessibility, and convenience of communication on social media, it is not unpredictable that on-going search can occur in the social media driven customer decision journey (Majchrzak, et al., 2013). In general, an extended information seeking activities resulted from the influences of social media can be probably observed in the customer decision-making process.

	Pre-purchase search	Ongoing search
Determinants	<ul style="list-style-type: none"> <li>• Involvement in the purchase</li> <li>• Market environment</li> <li>• Situational factors</li> </ul>	<ul style="list-style-type: none"> <li>• Involvement in the purchase</li> <li>• Market environment</li> <li>Situational factors</li> </ul>
Motives	<ul style="list-style-type: none"> <li>• Making better purchase decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Building a bank of information for future use</li> <li>• Experiencing fun and pleasure</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Increased product and market knowledge</li> <li>• Better purchase decisions</li> <li>• Increased satisfaction with the purchase outcome</li> </ul>	<ul style="list-style-type: none"> <li>• Increased product and market knowledge, leading to future buying efficiencies and personal influences</li> <li>• Increased impulse buying</li> <li>• Increased satisfaction from search and other outcomes</li> </ul>

Table 05: A framework of customer information search [Sources: adapted from Bloch, *et al.*, 1986; Michael, *et al.*, 1999]

### (5) Information overload

Warnings of an information overload phenomenon are also observable in the literature, which is due to the large quantity of passively or actively accessible information on social (Park and Lee, 2009; Powers, *et al.*, 2012). The information overload phenomenon might lower customers' involvement level in information search, as it reduces customers' perceived ability to search for information. However, this phenomenon is not newly created by social media, but has been identified and discussed since the past by scholars (Malhotra, 1984). It can be considered that it is the limitation of human recognition capability to be blamed instead of social media (Klingberg, 2009; Jones, *et al.*, 2004). In fact, content filtering/selection functions like "tagging" or "search" coded in the web infrastructure on the majority of social media platforms, or even automated content

selection algorithm that "learns" users preferences can even facilitate users to reach relevant (but might be biasedly restricted) information to them (Hannon, et al., 2010; Bu, et al., 2010; Guy, et al., 2010; Xiang and Gretzel, 2010).

**(6) SM enabled customers to “search” for information about “experience goods”**

One significant influence of online information channels on customers' external information search behaviour is that they have reduced the gap of individuals' capabilities of searching for information about search goods and experience goods (Huang, et al., 2009). “Experience goods” are the type of product whose product quality information is difficult for customers to access or judge, while the acquisition and judgement of the product quality information of “search goods” is easy for customers (Huang, et al., 2009; Park and Lee, 2009). Traditionally, as it has been challenging for customers to acquire information of and evaluate the quality of “experience goods” without first-hand experiences, they tend to minimise search efforts for this category of products or services (Nelson, 1970; Anderson and Sullivan, 1993; Kiang, et al., 2000). Opposite trend can be found regarding search goods, of which the pre-purchase information acquisition and quality can be achieved without personal trial but only with objective information. However, the internet has opened up new opportunities for customers to read about peer customers' experiences and access to product information that were not available in traditional information channels (Peterson, et al., 1997; Klein, 1998). It has empowered customers to "search" and "pre-experience" products (Huang, et al., 2009). In this situation, perceived capabilities of pre-purchase product quality judgement of experience goods significantly raised. Specifically, Huang, *et al.*(2009)'s study based on customers web browsing data demonstrated little distinction between customers' overall time spent on online information acquisition for search and experience goods. However, differences in other search behaviour patterns were identified. For instance, customers tend to read less web pages but more in-detail on each page for experience goods than for search goods. It is because the interpretation of "experience" involves greater information processing efforts (Garbarino and Edell, 1997; Huang, et al., 2009).

**(7) SM increased the cost-effectiveness and individuals' perceived capability of product information search**

In general, due to the popularity of social media and other internet applications, online searching has become a significant activity in customers' external search practices (Klein and Ford, 2003; Peterson and Merino, 2003; Huang, et al., 2009; Powers, et al., 2012). Searching for product related information has been identified as one of the key

motivations of individual social media adoption (Whiting and Williams, 2013). Customers widely adopt social media in product or service information search prior to purchase because of the ease of use, low cost, variety of information, and accessibility of information (Teo and Yeong, 2003; Heinonen, 2011). This suggests that social media or internet information channels have increased the cost-effectiveness of search and customers' perceived abilities to search. As a result, SM empowered customers to be more informed and less dependent on brands' information provision before purchase decision-making. SM-empowered customers do not only seek information about search goods, but also about experience goods (Huang, et al., 2009). In addition, they do not only consult acquaintances but also strangers' online reviews or recommendations (Cheong and Morrison, 2008; Munar and Jacobsen, 2013). Instead of concerning about the loss of information control (Kietzmann, et al., 2011), businesses might learn from customers' inclusive attitudes towards social media. They might discover valuable information about customer problem, needs, and perceived attitudes towards their offerings, which can enhance their product innovation (Roberts and Candi, 2014; Roberts and Piller, 2016).

#### **(8) Search of purchase destinations**

According to Blackwell et al. (2001), the assessment and comparison between different purchase channels also occurs in customers' evaluation of alternatives activities. Scholars that investigate customers' online information search or shopping behaviour discovered that the display of peer customer product reviews results in longer stay of customers and greater opportunities for customers to process transactions on the webpage (Huang, et al., 2009; Mudambi and Schuff, 2010). It is suggested, that after an iterative process of information acquisition, evaluation criteria establishment (based on the collection of internally and externally acquired information), and alternatives evaluations (based on the collection of acquired information and the established criteria), customers make decisions of which is the most suitable product / service to buy and where to buy them (McCarthy and Perreault, 1993; Teo and Yeong, 2003).

#### **(9) Summary**

In summary, customers' information seeking efforts, especially external searches, has traditionally been a popular academic research area (Peterson and Merino, 2003; Klein and Ford, 2003). This can be attributed to the fact that this step affects and or even determines customers' product choice and final transaction. It may also be because the external search activity is observable and affectable by businesses (Heinonen, 2011). Hence, there is an enthusiasm from both industry and academia in enhancement of



product and or service market performances through streamlining of digital information channels and the quality of information they provide (Stravinskienė, et al., 2008; Ariely, 2000). Researchers and industrial practitioners endeavour to achieve these goals through observing how customers search for information, what drives them to search for information and what information is positively influential for product sales and brand image (Zhang, et al., 2010). In the social media driven customer decision process, where interpersonal social media information seeking became a predominant phenomenon, this research area continues to demonstrate its significance to business practice enhancement (Laroche, 2010; Heinonen, 2011). However, most of the studies focus on suggestions for marketing and sales efforts. Only a relatively small number of studies have examined customers' information search activities for, the comprehension of their needs, Front-end new product ideation purposes (Roberts and Candi, 2014; Roberts and Piller, 2016). Customers' information search and evaluation criteria building is triggered by needs, is problem solving driven, and includes product functional attributes variables (Gardial, et al., 1994). Therefore, it is reasonable to hypothesise that, through the observation of customers' information seeking activities, product researchers can discover customer needs, problems and product functional features that are in customers' considerations.

#### **D. Customers' product usage and evaluation activities**

##### **(1) Determinants of customer satisfaction or dissatisfaction of a product**

Researchers and practitioners have been demonstrating interest in determining how customers' satisfaction and dissatisfaction perceptions are formed and how their subsequent actions are affected. Particularly focusing on how the understanding of these perceptions can provide ways for businesses to enhance customer relationship management, brand loyalty building, or marketing communication enhancement (Kuo, et al., 2009; Tse and Wilton, 1988; Bloemer and Kasper, 1995). A consensual determinant of customers' satisfaction level among scholars is the gap between customers' expectations of performances of the chosen product/service and the alternatives prior to usage and their actual experience with the purchased goods (Tse and Wilton, 1988; Michael, et al., 1999). Spreng, et al. (1996) added that customers also assess the marketing information against their product/service usage experience, which influences their sense of (dis)satisfaction. For example, the recognition of false information can cause dissatisfaction. This is because the false information leads customers to mistakenly expect or overestimate product quality, which can result in disappointment of actual usage experience. These findings indicate that insights about different sources of satisfactions or dissatisfactions can provide advice in different area of business

practices. If the degree of satisfaction is a consequence of expected and experienced product quality, the insights can be useful for product design, while insights about information quality caused (dis)satisfaction can guide future marketing communication practices.

## **(2) Differences between customers' pre-purchase and post-purchase product evaluation criteria**

In addition, Gardial, et al. (1994)'s retrospective interview data suggests that customers' post-purchase evaluation criteria is comprised of variables that reflect actual product performance (perceived by customers) unlike its pre-purchase counterpart, which is based on customers' needs. Besides, prior to purchase, customers tend to evaluate products on the attribute level, whereas stays at an overall level during post-purchase evaluation. Another difference between pre- and post-purchase evaluation is that customers usually compare the former with their internally established benchmarks (e.g., based on past experiences), while measure the latter against other products or brands. Finally, post-purchase evaluation is found to be more emotional than pre-purchase evaluation. Overall, an alteration of evaluation criteria is identified between pre-purchase and post-purchase customer product evaluation. These findings can provide research implications for scholars and businesses. For instance, the investigation of pre-purchase evaluation criteria might allow researchers to identify customer needs while post-purchase criteria indicate customers' perceptions of product performances.

## **(3) The electronic word-of-mouth (eWOM) phenomenon**

The word-of-mouth (WOM) activity triggered by customer (dis)satisfaction is noticeably enlarged and affected by social media. The term "eWOM" (electronic word-of-mouth) was coined by scholars and widely adopted and has experienced a boom in academic research activities in the last decade (e.g., Gruen, et al., 2006; Chu and Kim, 2011; Park and Lee, 2009a, 2009b; Doh and Hwang, 2009; Lee and Youn, 2009; Hung and Li, 2007). It represents publicly visible product opinions that are submitted by customers onto the internet (Hennig-Thurau, et al., 2004). It is a sum of product review giving, passing, and reading activities conducted by customers (Hennig-Thurau, et al., 2004). Although much more individuals read others' reviews than contribute their own (Preece and Shneiderman, 2009; Heinonen, 2011), the quantity and variety of existing customer reviews on SM is enormous (Chen and Xie, 2008).

EWOM can be regarded as an extension of traditional WOM activities (Cheung, et al., 2008). WOM has long been proved to be impactful on customer decision-making

activities regarding both pre-purchase consideration and perceived post-purchase experiences, which can be more powerful than advertising, personal selling, print advertisements and radio thanks to its higher perceived credibility (e.g. Katz and Lazarsfeld, 1966; Engel, et al., 1969; Herr, et al., 1991; Bone, 1995; Goldenberg, et al., 2001; Hennig-Thurau, et al., 2004; Goldsmith and Horowitz, 2006; Chen and Xie, 2008). The popularity of social media seems only to increase the impact of WOM. Via social media, customers can receive or give product related information from or to a much wider range of peer customers instead of a limited number of individuals whom they know (Ratchford and Debabrata Talukdar, 2001; Lee, et al., 2006; Lee, et al., 2008).

Researchers have been providing managerial and academic advice mainly from advertising, marketing communication, brand communication, sales optimisation, or late stage of NPD or innovation (i.e. Innovation adoption) activities. For example, displaying customers' product review on e-commerce page is suggested to increase website adoptions and transactions (Kumar and Benbasat, 2006; Huang, et al., 2009; Preece and Shneiderman, 2009). It is because engaging customers in late NPD stages can enhance product success (Gruner and Homburg, 2000). However, as customers reviews products or services according to their "experiences, evaluations, and opinions" (Park and Lee, 2009), it has been suggested that these reviews can carry and convey information related to customer needs and product preference insights (Henard and Szymanski, 2001; Gruner and Homburg, 2000). These could be utilised in the early stages of an NPD project and increase the possibility of product success (Carr, et al., 2015).

#### **2.2.4[c] Summary: the synthesised SM-driven CDJ model**

This section reviewed two main groups of literatures. First, the internet-oriented McKinsey & Company CDJ model was studied and presented. It is the only systematic attempt to conceptualise customers' decision-making process under the influence of SM and other digital information channels. Second, relevant academic research findings were examined and discussed. It is centred on the EBM model as the most established customer decision making process model. The comparison between the McKinsey CDJ model and the EBM model, and the introduction of other academic findings are also conducted.

The outcome of the review is a synthesised SM-driven CDJ model that blends both groups of insights (see Figure 06). It demonstrated that SM predominantly empowered customers' product information acquisition and contribution activities. It also indicated

that businesses can learn customers' needs or problems through observing their information search and share activities. It can enhance the outcomes of businesses' front-end of innovation outcomes (Ernst, 2002; Barczak, *et al.*, 2009; Montoya - Weiss and O'Driscoll, 2000). However, this argument requires further literature review (see the next section). Nevertheless, the model can serve as a theoretical framework that guides the main study, while be used in the discussions of empirical findings.

Besides, several knowledge gaps can be identified from the knowledge review. First, the McKinsey model is not peer-reviewed, which lacks information about data and research methodology. Second, there are very few research that investigate customers' SM-driven decision-making activities in a specific market or sector in-depth, which leads to a lack of detailed and vivid knowledge in this domain. Third, the up-to-date McKinsey model and the rigorous EBM model are rarely brought together. It leaves opportunities to utilise the strengths of both discourses to enhance the modeling of SM-driven customer decision making process. These research gaps also provided the guidance of the design of the main study.

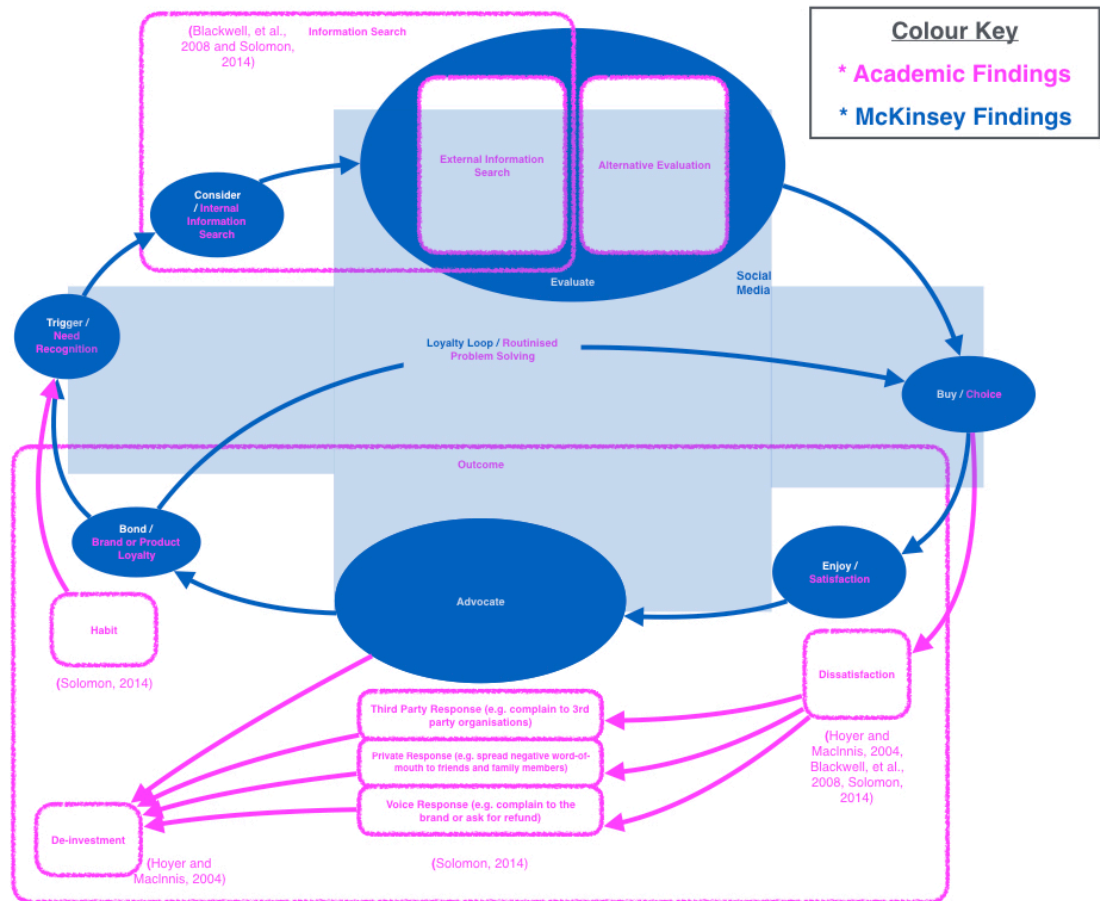


Figure 06: the synthesized Social Media Driven Customer Decision Journey (SM-driven CDJ) Model [Sources: adapted from Court *et al.*, 2009; Edelman, 2010; Edelman and Singer, 2015; Engel, 1978; Hoyer and MacInnis, 2004; Blackwell, *et al.*, 2008 and Solomon, 2014]

### 2.2.5 The Impact of Social Media on Chinese Baby Diaper Customers' Decision Making Behaviour

Previous sections critically reviewed key academic and industrial studies about how customers' purchase decision making activities are affected by social media. As this study is particularly set to investigate the baby diaper market in China, this section endeavours to investigate current understandings of customers within that market. As there are limited scholarly investigation of the influences of social media on this specific group and market, industrial studies and reports are brought in for reference. The indication is that there is a great opportunity for developing academic knowledge in this area. This study intends to capture this opportunity.

According to existing knowledge in the Chinese baby diaper market, social media has become a key information source for Chinese diaper customers. Study shows that social media and friends, family and colleagues are the most influential information sources for contemporary diaper customers in Asia to either select a product or determine to switch (Nielson, 2015). Apart from referencing these information sources when making product selection decisions, they also adopt social media as the most important channel to learn parenting knowledge. Among different social media platforms, parenting sites have the highest impact on Asian diaper customers' decision making. A study of 905 Chinese consumers demonstrated that, in China specifically, 54% of the consumers read peer-shared product information on social media as the most important part of their product research before purchase, compared with 47% globally (PWC, 2017). This finding is consistent with the suggestion of McKinsey & Company (2009) that modern consumers search for third party product information on social media before purchase. The reasons for customers to prioritise social media and peer opinions are threefold.

First, it is widely noticed in the industry that Chinese baby product consumers do not trust official information from the producers or retailers due to a series of scandals (Zhu, 2013; Chiu *et al.*, 2015). Therefore, customers turn to third-party and independent opinions, and conduct extensive research of peer experience and recommendations before purchasing (KPMG, 2016; Chen *et al.*, 2016). Second, a large percentage of Chinese customers are digitally savvy and have been embracing online shopping for baby products (Chiu *et al.*, 2015). It is projected that 31% of the fast-moving consumer goods (FMCG) sales in China will take place through e-commerce (comparing with 10% globally, 12% in the US and 10% in the UK), more than doubling the 2018 figure (14%) (Yu, 2019). Among all FMCG categories, diaper products see the highest relative online sales penetration rate (75%, total number of online purchasers divided by total number of purchasers of the category) and growth rate (14% increase from 2016) in 2018 in China (Kantar World Panel and Bain & Company, 2019). As customers shop online, they pay attention to customer reviews on the e-commerce channels (Wenlong and Rongrong, 2018; KPMG, 2016). Third, the young generation of Chinese parents are not satisfied with merely understanding basic baby care tactics, but are keen to learn deeper and more scientific parenting knowledge (China Daily, 2017). They consider peers on social media, like those in WeChat groups own more up-to-date and scientifically legible knowledge than their parents. One of the parenting topics that the young parents consult on social media is babycare products. As a result, they often purchase items recommended and reviewed by their peers on social media.

To summarise, the review of existing findings of the influence of social media on Chinese diaper customers' product decision making behaviour suggested similar patterns as the McKinsey & Company (2008, 2009, 2016) studies. The predominant impact is that this group of customers conduct extensive product research focused on third party opinions via social media. However, more detailed behavioural and mental patterns like how they utilise these contents on social media, which are the leading platforms they use, and what contents are available on social media are yet to be studied and documented. The empirical study of this research endeavours to address these gap.

### **2.3 Customer Research Activities in the Front-end of Innovation and the Influence of Social Media (SM)**

This section critically reviews current state of knowledge of customer research activities in the front-end of innovation and how it has been influenced by SM. It first reviews basic concepts around the front-end of innovation (in Section 2.3.1), before placing the focus on existing understandings of customer research activities (in Section 2.3.2). The last section (Section 2.3.3) discusses knowledge about new research methods that are emerging because of SM.

The key existing knowledge in this domain focus on three areas:

- (1) Understanding customer needs as a key factor for FEI and NPD success  
(Ernst, 2002)
- (2) Investigating the influence of SM on brands' FEI activities as a knowledge gap  
(Robert and Candi, 2014)
- (3) SM text-mining can be a method for firm to involve SM in customer research activities in FEI (Carr, *et al.*, 2015)

<b>Existing key studies</b>	<b>Key theme of the study</b>	<b>Its influences on this research</b>
Ernst, 2002	The study suggested that understanding customer needs is a key factor for FEI and NPD success	Provided foundational evidence for the key theoretical stance of this research. This research is established based on the viewpoint that understanding customer needs through customer research is a key success factor of FEI success. Therefore, whether SM can provide

		new opportunities for brands to understand customer needs can impact their FEI performances.
Robert and Candi, 2014	Called for research to investigate if SM can affect firms' FEI practices, besides rear-end of innovation (market launch) activities	Suggested a key knowledge gap that this research addresses.
Carr <i>et al.</i> , 2015	Provided empirical evidences that SM text-mining can be used as a method for customer research for FEI based on a real-life business case in the food sector in Europe, North America and Latin America	Provided preliminary evidences that brands can conduct customer research through SM by adopting SM text-mining methods, which this research can build on.

Table 06: Existing key studies and their influences on this research (C) [source: developed in this research]

### 2.3.1 The Front-end of Innovation

#### 2.3.1[a] Introduction

The front-end of Innovation (FEI) (Koen, et al., 2001), also known as "fuzzy front end (FFE)" of new product development (NPD) (Kim and Wilemon, 2002; Reid and De Brentani, 2004), the "pre-development" phase (Cooper, 1988), "pre-project phase" (Khurana and Rosenthal, 1997), "pre-project activities" (Verganti, 1997) or "pre-phase zero" (Khurana and Rosenthal, 1998) refers to the early stages of an NPD process (see Table 07). This front-end phase starts from the identification of an opportunity, and ends at when the business makes decisions to invest in a whole project to develop and launch one product idea (Kim and Wilemon, 2002). Once a concept is defined and evaluated, and the uncertainty declined to an acceptable level to the firm, the FEI terminates. After the FEI phase, the concept will progress into NPD process, where the team develop and launch it to the market, and review its performance in the market (Cooper, 1990). This study adopts an information processing perspective to understand FEI (De Brentani and Reid, 2012). This is typically based on an identified opportunity and the FEI team



collecting and processing information about the market, customers, competitors, technology, and resources to help reduce project uncertainty and to support the creation of new product ideas and concepts (Reid and De Brentani, 2004).

### 2.3.1[b] The FEI models

Various FEI models that illustrate key stages or activities were proposed by scholars (see Table 07). Through the analysis of common stages across models, it is observed that despite the significance of customer needs research activities in the FEI, most of the models do not demonstrate it in the titles of FEI stages. Merely the "Front-end Process of Concept Development" model proposed by Eppinger and Ulrich (2015) include "identify customer needs" as a stage of the FEI (see Figure 07). As this study focuses on the research/information processing activities in the FEI, it is appropriate to adopt the Eppinger and Ulrich (2015) model. This model has been extensively cited (e.g., by Cohen and Levinthal, 1989; Baldwin and Clark, 2000; Sanchez and Mahoney, 1996; Dym, et al., 2005; Tseng and Hu, 2014; Wu, et al., 2015; Berends, et al., 2014) and constantly updated by the authors (Ulrich and Eppinger, 1995; Ulrich, 2004; Ulrich and Eppinger, 2008; Eppinger and Ulrich, 2015), the validity and coherence is established.

Research has demonstrated that FEI plays a crucial role in NPD success or failure. Additionally, being market oriented through understanding customer needs, and customer involvement in the NPD process are success factors of both FEI and NPD activities (Ernst, 2002). This chapter aims at establishing the importance of customer needs identification and how to achieve it.

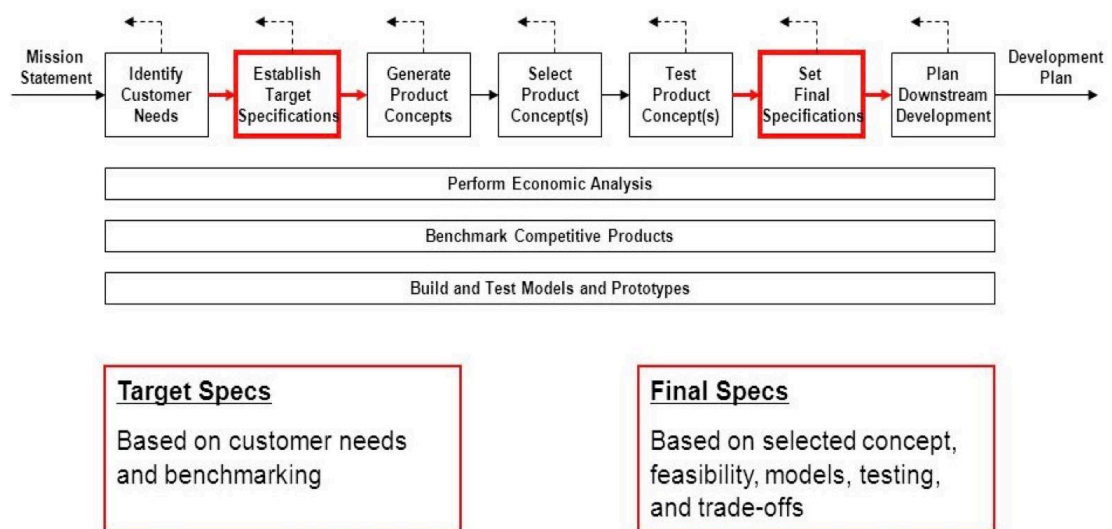


Figure 07: The Front-end Process of Concept Development Model [adapted from: Eppinger and Ulrich, 2015]

Titles of the models	FEI stages included in the models						
The Front-end Process of Concept Development Model (Eppinger and Ulrich, 2015)	Identify Customer Needs	Establish Target Specifications	Generate Product Concepts	Select Product Concept(s)	Test Product Concepts	Set Final Specifications	Plan Downstream Development
The New Concept Development Model (Koen, et al., 2001)	Opportunity Identification	Opportunity Analysis	Idea Genesis	Idea Selection			Concept & Technology Development
A Model of Product Development Front End (Khurana and Rosenthal, 1997)	Pre-phase Zero: Preliminary Opportunity Identification – Market and Technology Analysis		Phase Zero: Product Concept and Definition			Phase One: Product Definition and Project Planning	
Standardised Stages of the Corporate Innovation Process (Brem and Voigt, 2009)			Idea Generation	Idea Acceptance			
The Pre-development Steps in the New Product Process (Cooper, 1988)			Stage I: Idea		Stage II: Preliminary Assessment	Stage III: Concept	

The Front-end Galileo Process (Montoya-Weiss and O'Driscoll, 2000)	Idea Qualification		Concept Development	Concept Rating	Concept Assessment		
A Proposal for Structuring Fuzzy Front End (Boeddrich, 2004)	Strategic Guideline for Innovations		Idea Generation and Adoption		Idea Screening Execution and Further Conceptual		
Fuzzy Front-end Stages of New Service Development (Alam, 2006)			Idea Generation	Idea Screening		Concept Development	

Table 07: Exhibition of the most cited FEI models with the indication of common phases [source: author]

### 2.3.1[c] FEI and customer needs orientation as success factors of NPD

A continuous and successful NPD is one factor that ensures a persistent business operation (Zhou, et al., 2005; Sorescu and Spanjol, 2008; Hoyer, et al., 2010). However, failures are observed to occur more often than success in NPD practices due to its technological, personal, organizational, financial, managerial and operational risks (Crawford, 1987; Ernst, 2002; Chin, et al., 2009). The risks come from fierce market competitions (Chin, et al., 2009). They challengingly request firms to develop high-quality, cost-effective, and unique new products through a speedy and flexible approach (Zhang and Doll, 2001). Front-End of Innovation (FEI) is usually the origin of most NPD failures, as it is where the NPD team confront most of the risks and uncertainties. Therefore, it is reasonable that scholars have been keen on unlocking the success factor of NPD and the role of FEI in NPD success.

Ernst (2002) conducted a comprehensive review and discussion of empirical studies with a focus on NPD success factors. The review was based upon a large sample size, which had statistical relevance and was thus able to draw generalisable conclusions. Cooper's and Kleinschmidt's series of NPD studies were selected as the foundation of Ernst (2002)'s review. It can be attributed to the consistency of Cooper's and Kleinschmidt's research focus in the field over decades, which encouraged wide adoptions of their findings in the academia (e.g. De Brentani, 1989; Özsomer, et al., 1997; Calantone, et al., 1997). Table 08 summarises the success factors of NPD from the project level in 5 categories (Cooper and Kleinschmidt, 1995) that were presented in Ernst (2002)'s article (e.g. Cooper and Kleinschmidt, 1996; Barczak, 1995; Atuahene-Gima, 1995; Song and Parry, 1997; Griffin, 1997; Calantone, et al., 1997) with adding findings from newer publications of Cooper and Kleinschmidts (2007) and other scholars (Lilien, et al., 2002; Brockhoff, 2003; Franke, et al., 2006).

<b>Process Factors</b>	<b>Organisational Factors</b>	<b>Cultural Factors</b>	<b>Senior-level Managerial Factors</b>	<b>Strategic Factors</b>
High-quality front-end activities	A multi-disciplinary NPD team	The existence of a project champion	Appropriate financial resource allocation to market research	Clearly defined goals of the overarching NPD programme

Constant profitability evaluation of the project across NPD stages that drives decisions of continue/stop a project	A tough and responsible project leader	A systematic product idea suggestion scheme from employees	Appropriate financial resource allocation to product launch to market	A strategic focus that directs all individual NPD projects
Market and/or customer needs orientation	An NPD team that bares obligation for the whole project	Free time within working hours for employees to conduct independent ideations	Goal definition from the senior management level	Long-term momentum and core target of the NPD programme including long-term projects
High level of customer involvement	Commitments of the project leader and NPD team members	Available internal financial resources	Routine auditions of goal achievements	Clear communication of the roles of new products
Clear product definition at the front-end	High intensity of communications in the team across the whole NPD process	Permissions for employees to work on unofficial projects	Sufficiency and appropriateness of resource allocation	
High-quality NPD process	A decision between matrix and task force models of project organisation	Risk taking climate	Involved, interested, and supportive management	

Table 08: NPD Success Factors [source: adapted from Ernst, 2002]

Barczak, et al. (2009)'s review and interpretation of the Product Development & Management Association (PDMA)'s third best practices research also investigated the NPD success factors. It emphasised the significance of a proper method to manage product idea generation. Specifically, more successful businesses tend to employ a formal process for idea generation with high-quality customer research activities to support it. However, it also revealed that the general performances of businesses in these activities remains insufficient, which limited their chances of succeeding in the market. As idea generation occurs in the FEI, Barczak, et al. (2009)'s findings indicated the significance of FEI and the customer research activities in FEI towards NPD success (Eppinger and Ulrich, 2015).

In summary, having high-quality front-end activities, being market and/or customer oriented and to highly involve customers in the NPD process are agreed to be significant NPD success factors by the scholars (Ernst, 2002; Barczak, et al., 2009). The fulfilment of these three factors increases the opportunities of product alignment to customer needs and reduces the risks of market launch (Zhang and Doll, 2001; Cooper, et al., 2004; Barczak, et al., 2009).

### **2.3.1[d] Customer needs orientation as a success factor of FEI**

The consensus that (1) front-end innovation (FEI) and (2) market/customer needs orientation are significant factors in NPD success can be clearly found in the literatures (Ernst, 2002; Barczak, *et al.*, 2009). At the same time, the latter (market/customer needs orientation) also significantly contribute to the definition of a robust product concept that can be brought forward into further NPD phases, which is the target of the FEI activities (Kim and Wilemon, 2002). A concrete product concept involves the definition of enabling technology, market opportunity, customer needs, and its alignment with business strategy (Florén, et al., 2017; Khurana and Rosenthal, 1997; Montoya-Weiss and O'Driscoll, 2000). It means the reduction of uncertainties in the above aspects to the level that enable the business to invest in the further NPD steps. This study focuses on the customer needs aspect.

The uncertainty level is at its highest in the FEI stage within the NPD process (Kim and Wilemon, 2002) (see Figure 08). A crucial goal of FEI activities is to remove the ambiguities that cause the uncertainty as much as possible (Kim and Wilemon, 2002; Alam, 2006). Being market/customer oriented contributes to this endeavor (Enkel, et al., 2005). It is apparent in market/needs pull innovation projects, while in the technology pull

counterparts, an understanding of market/customer is necessary for avoiding the mismatch between technology implementation and needs (Brem and Voigt, 2009).

The foundational practice of being market/customer oriented is the identification of customer needs, which reduces market uncertainty (Atuahene-Gima, 1995; Kohli and Jaworski, 1990; Slater and Narver, 1998; Slater and Narver, 1999). This necessitates firms to acquire information about market in the FEI phases (Moenaert, et al., 1995; Kim and Wilemon, 2002; Verworn, 2009). The reason is that uncertainty can be considered as an insufficiency of ready-to-use information, which leads to businesses' incapability of outcome prediction (Zhang and Doll, 2001). Zhang and Doll (2001) further traced market uncertainties to two origins: customers and competitors. Both "market/customer needs orientation" and this study deal with customer uncertainties, and focus on understanding customer needs.

In conclusion, a significant aim of the FEI phases is the reduction of the NPD project's customer uncertainties through gaining knowledge of customer needs (Zhang and Doll, 2001). When the uncertainty level decreases to an acceptable level, a concrete product concept can be established (Florén, et al., 2017). A successful FEI practice can improve later NPD execution processes and increase the possibilities of NPD success (Verworn, et al., 2008). However, as suggested by Barczak, *et al.*, (2009), businesses are extensively observed to poorly execute that customer research activities for ideation in FEI. There is currently a lack of general understanding of the reason behind this underperformance among companies.

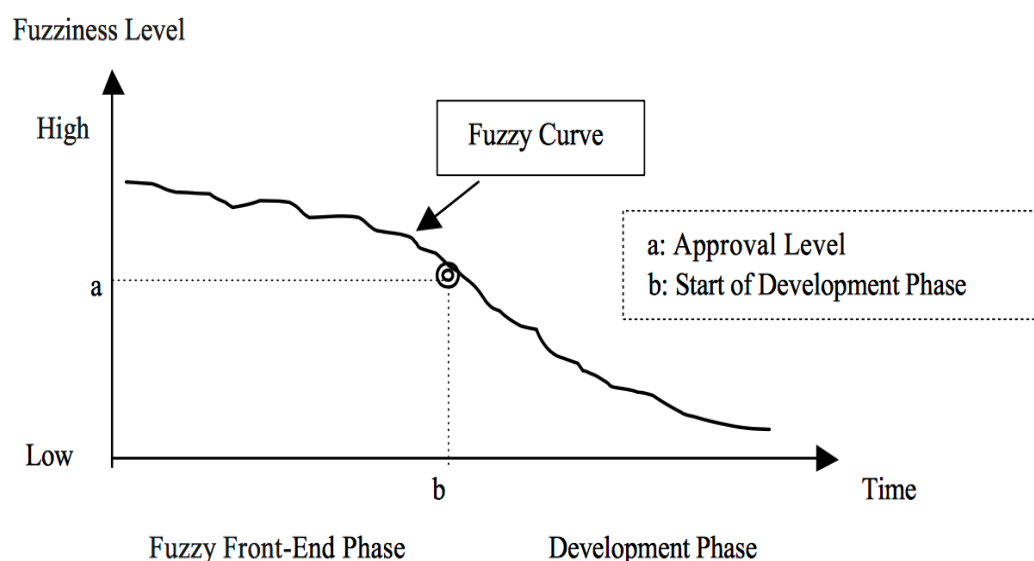


Figure 08: Pattern of the fuzziness level change through the NPD process [Source: Kim and Wilemon, 2002 ]

### **2.3.1[e] Customer involvement as a success factor of FEI**

Customer involvement in FEI refers to the business actions of including customers' opinions and ideas to inform their new product ideation in FEI (Zhang and Doll, 2001). It indicates direct or indirect interactions or collaborations between businesses and their customers (Lengnick-Hall, 1996; Khurana and Rosenthal, 1998; Gruner and Homburg, 2000; Carbonell, et al., 2009). It can be viewed as a channel for businesses to learn about the needs of their customers to inform product ideation. Business can acquire information from customers, or can invite customers to be co-designer/developer in the project (Zhang and Doll, 2001; Antorini, et al., 2012; Martini, et al., 2014; Rindfleisch, 2017). As customers are the target end-users or customers of the products, their contribution and increase the opportunities for the products to meet their needs. It reduces the risk of the product being not favoured by the customers. From this viewpoint, involving customers can be regarded as an element of market/customer orientation, which can reduce customer uncertainty in FEI and contributes to NPD success (Zhang and Doll, 2001; Thanasopon, et al., 2016 Gassmann and Schweitzer, 2014).

However, several controversial opinions of involving customers in NPD historically exist (Ernst, 2002; Florén, et al., 2017): (1) The ineffectiveness of cooperating with customers in project involving novel technologies (Veryzer, 1998); (2) customers may not know what they need/want (Riquelme, 2001; Woodruff, 1997; Wilson and Sasse, 2000; Gould and Lewis, 1985); (3) focusing on customers might restrict firms' proposals within the users' present understandings and neglect more breakthrough opportunities (Verganti, 2013; Norman and Verganti, 2014). On the other hand, sufficient investigations about customer interaction in FEI of service innovation (Alam, 2006; Carbonell, et al., 2009), lead user (Droge, et al., 2010; Von Hippel, 1986), customer involvement in industrial product development (Gruner and Homburg, 2000), and customer co-creation (Hoyer, et al., 2010) established that customer involvement in the FEI phases can reduce possibilities of product/service failures and improve cost-efficiency of NPD projects. Involving customers does not suggest businesses to simply ask customer what they think the products should be like, but rather requests well-designed research methods and tools to discover in-depth insights from customers (von Hippel, 2001). Also, the emphasis of customer involvement does not exclude other information source that the firm could consult, but mainly highlight the significance of understanding and serving customer needs (Brown, 2009). Therefore, the 3 concerns presented at the beginning of this paragraph can be mitigated through the appropriate operation of customer research and other activities in FEI.



### 2.3.1[f] The influences of product Innovativeness on the level of NPD uncertainties

Research suggests that the level of product innovativeness is positively related to the level of uncertainty of an NPD project, and the amount or variety of information the project team needs to obtain (Tatikonda and Montoya-Weiss, 2001; Chen, et al., 2012). Determined by the combinations between market and technology uncertainties, four general types of innovations with different levels and types of innovativeness can be observed (Herstatt, et al., 2004) (see Figure 09). Incremental innovation incorporates low degrees of both market and technical uncertainties (Langerak and Jan Hultink, 2006). On the contrary, radical innovation introduces brand new offerings to the market and the business and bears high market and technical uncertainties. For the former type of NPD project, existing knowledge in the firms or limited endeavour of new information collection might be sufficient, while the latter category normally requests firms to obtain extensive volume of information from external environment. In between these two extremes, market innovation typically calls for newly sourced market information (e.g., customer needs and competitor performances related insights), while technical innovation often requires relevant new technology learnings. It is evident that the more innovative the NPD project is, the higher the demand of information acquisition is (Herstatt, et al., 2004; Calantone, et al., 2006).

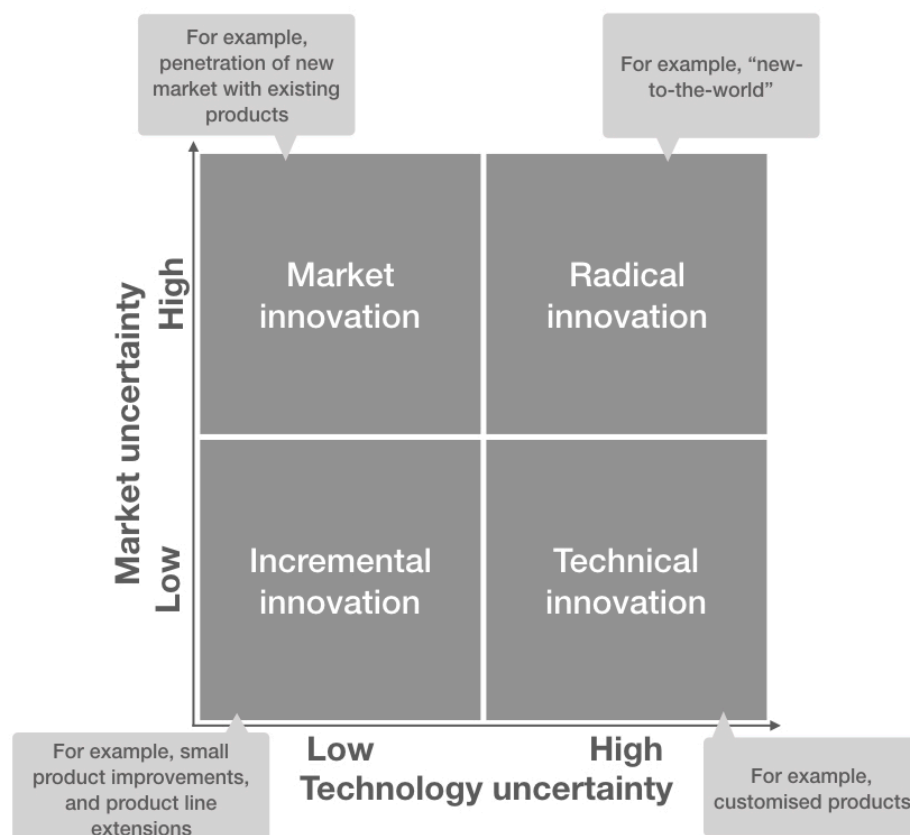


Figure 09: NPD Uncertainty and Innovativeness matrix [source: adapted from Herstatt, et al., 2004]

### **2.3.1[g] The emerging influences of “Design thinking” on FEI activities**

An array of sectors or functionalities, like education, healthcare, sustainability, information technology (IT), social welfare, justice, and management have been displaying close interest in adopting "design thinking" in practice (Stewart, 2011). This interest is derived from the belief that design thinking possesses the potential capabilities to tackle "ill-structured" and "wicked" issues and can also handle or inaugurate transformations across various domains other than design (Rittel and Webber, 1973; Simon, 1973; Stewart, 2011). Management professionals appear to be among the keenest enthusiasts to introduce design thinking into their practices, especially those in the innovation field. It is suggested that this results from the intrinsic requirement of product or service design in keeping a business competitive in the market (Dunne and Martin, 2006; Noble, 2011). In a business setting, design has found to be able to enhance a firm's revenue, brand value, long-term product success and asset creation (Verganti, 2013). As this thesis is centred at front-end innovation (FEI) issues, while design thinking plays a significant role in current innovation discourse, it is necessary to include design thinking in the discussion. It should provide both background knowledge and evidences for the interpretations of the empirical studies.

Design thinking is a rather novice field of academic investigation in which scholars and practitioners are still in the process of interpreting, rationalising and documenting design thinking from distinct angles (Johansson-Sköldberg, et al., 2013; Simon, 1969; Schön, 1983; Buchanan, 1992; Lawson, 2006; Cross, 2001; Krippendorff, 2005; Dorst, 2011; Brown, 2009; Kelley and Kelley, 2013; Dunne and Martin, 2006; Stewart, 2011). Therefore, debates ranging from its definition to its effectiveness exist. However, the contributions it can potentially make to product innovation practices have been well championed (Stewart, 2011, Johansson-Sköldberg, et al., 2013, Dunne and Martin, 2006, Dorst, 2015, Kimbell, 2011, Verganti, 2013). It can benefit product innovation from 2 perspectives. Firstly, it can assist businesses to tackle undetermined problems and opportunities through an iterative way of abductive reasoning (Rittel and Webber, 1973; Dorst, 2011; Thagard and Shelley, 1997; van Hoek, et al., 2005). In this situation, businesses are encouraged to execute agile cycles of explorations for information, formation of ideas, and using the ideas to probe for more information (Dorst, 2011; Thagard and Shelley, 1997; van Hoek, et al., 2005). Through these cycles, companies can gradually navigate a clear direction for new product ideation. The second approach that design thinking can benefit FEI is popularised by design consultancy IDEO as an industry pioneer (Johansson-Sköldberg, et al., 2013). It emphasised the significance of being human-centred when designing new product through empathetically

understanding customer needs. As this study focus on customer research activities in the FEI, this second feature of design thinking is relevant to this study. Further reviews of literatures about it are presented in the following section.

### **2.3.1[h] Design thinking and the significance of customer research**

In accordance with IDEO's practices and proposals, a key component of design thinking is being "human-centred" and to design products based on real problems and needs of people (Johansson-Sköldberg, et al., 2013; Brown and Wyatt, 2015). It aligns with some other researchers' proposals. For example, Kumar (2012) adopted "Know People" as the umbrella term of research methods for information collection in his design driven innovation methods handbook. However, other scholars raised contradictory views of the benefit of being "human-centered", as customers' current understandings might limit companies to pursuit radically innovative product ideas (Verganti, 2013; Norman and Verganti, 2014). However, being human centred does not mean focusing on what customer currently say about what they want. It rather encourages product developers or researchers to step into customers shoes from multiple angles, deeply learn their beliefs and behaviours, and synthesise insights from the learnings (Brown, 2009). The deep insights and empathy that the developers or researchers gain can result in an abundance of radically or incrementally innovative product ideas that can fulfill unmet needs of customers (see an example later in this section) (Brown, 2009; Brown and Wyatt, 2015). It is difficult to find direct theoretical foundations of design thinking principles promoted by IDEO (Johansson-Sköldberg, et al., 2013) and their publications can be considered as conceptualisations of their practices or case studies (Yin, 2013). However, at this early stage of the formation of a knowledge area, their experiences and practices provide valuable insights into the value of design thinking (Yin, 2013). From the researchers' practical experiences, this "human-centred" initiative is extensively adopted in the industry. Therefore, more academic studies about this domain should be conducted.

A great number of studies (e.g., Dunne and Martin, 2006, Kelley, 2007 and Norman, 2013) have highlighted that it is easy for individuals to base their practice on subjectivity, which usually leads to misinterpretation of the target audiences' true needs. It might be the reason why the absence of customer research in product idea generation activities is widely observed across the industry, despite the wide recognition of the significance of understanding customer needs (Barczak, et al., 2009). Therefore, the emphasis of identifying customer needs to inform product ideation is still crucial.

Kelly and Kelley (2013) shared a case study of how GE radically innovated their computerized tomography (CT) scanner products through the application and use of a human-centred approach. The premium quality and advanced technology of their original design of CT scanning machine were widely welcomed by the hospitals. However, during a hospital visit of one of GE's employee, he sadly discovered that the CT scan experiences brought severe fear to children patients, resulting in a large proportion of them refusing to even start a test. This rejection to receiving a test can cause severe medical issues, as the test and diagnosis is forced to be delayed. Also, the children's mental trauma originated from the fear of the CT machine can be tough to overcome. The GE employee decided to observe and make conversations with the children patients and their parents. This subsequently led to the redesign of scanning experience into an adventure role play. It enhanced the efficiency of the tests and helped to reduce anxiety in children without changing the technology. The adoption of a human-centred approach helped GE to radically improve their product experience for child patients. Brown and Katz (2011) and Brown (2009) pinpointed that the human-centred customer research activities not only allow businesses to develop product, services, processes, means of communications or cooperation that are innovative and beneficial for all stakeholders, but can also improve the community and ease the conflicts between human activities and the nature. The capability of design thinking that allows businesses to unlock customer needs is a significant reason of its growing adoption in the NPD practices (Seidel and Fixson, 2013).

### **2.3.1[i] Summary**

To summarise, high-quality FEI activities help to contribute to NPD success. Both market/customer needs orientation and customer involvement are significant factors that contribute to quality of FEI activities by reducing uncertainties that originates from customers (Zhang and Doll, 2001). Both concepts focus on acquiring customer needs knowledge to inform businesses' product ideation and concept development in FEI (Zhang and Doll, 2001; Carbonell, et al., 2009). The "design thinking" discourse also recognises that being "human-centred" based on empathetically conduct research activities to identify customer needs enhances businesses' innovation practices (Brown, 2009; Brown and Wyatt, 2015). The next section reviews key concepts related to customer research activities in the FEI and highlights emerging customer research methods that involve social media (SM).

## **2.3.2 Customer Research in FEI for Customer Needs Identification**

### **2.3.2[a] Classifications of customer needs**

Customer needs have been established as referring to the gap between their current situation and an aspired status (Bruner and Pomazal, 1988). Different parametres can be used to conceptualise the various aspects of needs.

#### ***Internal/intrinsic and external/product Needs***

Van Kleef et al., (2005) suggested that individuals' needs can origin from internal physical or mental dissatisfaction or difficulties, or external stimulation. The feeling of hunger that triggers the need of food can be an internal need (Bruner and Pomazal, 1988; Engel, et al., 2006). When individuals sense the need to try a new tea brand after seeing others' positive reviews, they are experiencing externally induced needs or product needs. Therefore, the internally realised needs reflect the intrinsic status of a person, while externally stimulated needs are often associated with a certain product and its features. Maslow (1987)'s hierarchy of needs (physiological; safety; belongingness and love; esteem; self-actualisation) (Hagerty, 1999; Andersson and Mossberg, 2004) and Scitovsky (1986 and 1992)'s three types of human satisfactions (personal comfort, social comfort and stimulation) (Andersson and Mossberg, 2004) are examples of classifications of the internally realised needs.

This classification was used in investigating customer behaviour. For example, Gardial, *et al.* (1994) suggested that individuals often tend to focus on the internal/intrinsic needs when evaluating products before purchase, whereas construct post-purchase product assessment criteria with external/product specific needs. It can be also used to categorise customer research methods. For instance, the established House of Quality (HOQ) tool of product development that aims at bridging customer needs and product design is based on the collection of customers external/product needs (Hauser and Clausing, 1988; Herrmann, et al., 2000). On the contrary, the "human-centred design" and the ethnographic style of research methods philosophy promoted by IDEO can be considered as focusing on unlocking customers' intrinsic needs (Brown, 2009; Brown and Katz, 2011). Van Kleef et al., (2005) have argued that solely focusing on the acquisition of product related needs from customers might restrict the firms' ability to solve customers' intrinsic problems and or discovering breakthrough solutions. IDEO's (Brown, 2009; Brown and Katz, 2011) suggestions indicated the same opinion. However, the links between internal/external needs and customer research methods is not extensively studied. Also, from the researchers' personal experience, it is usually the questions that are asked in the research sessions that determine what kind of customer

needs information can be collected, instead of the methods themselves. The learnings from FEI practitioners suggest that focusing on unlocking customers' internal needs can create more opportunities for businesses (Van Kleef et al., 2005).

### ***General needs and specific requirements***

Customer needs have been categorised into general needs and specific requirements by scholars (Hauser and Clausing, 1988; Herrmann, et al., 2000; Griffin, 1996). From one perspective, it refers to the generalisation or specification the attributes of customer needs. Based on this classification of needs, the HOQ tools suggest that customer needs can be leveled into primary (most general), secondary, and tertiary (most specific) needs (Griffin and Hauser, 1993). For instance, the first level of need of a car can be "good operation and use", which can be broken down into "easy to open and close door", "isolation", and "armrest" attributes as the secondary level needs. Each of these second tier attributes can be comprised of several more detailed features (Hauser and Clausing, 1988).

Another perspective of generalisation/specification is whether the needs are generalisable to scenarios or context specific (Griffin, 1996). The context-specific type of needs accounts for the majority of the need insights and statements that firms extract from their customer research activities. It is significant for researchers to note down the context or scenario related details for an enhanced accuracy in needs identification.

### ***Functional and emotional needs***

Researchers also categorise customer needs according to whether they are functional and utility-driven or emotional oriented (Khalid and Helander, 2006; Norman, 2004; Desmet, et al., 2007). Although functional needs have been the focus in NPD studies, researchers reminded that the comprehension and fulfillment of customers' emotional demands can enhance new product design (Desmet, et al., 2007; Norman, 2004; Jordan, 2003; Hassenzahl, 2004). It can differentiate the usage experience of the product from competitors and trigger customers adoptions (Khalid and Helander, 2006).

Khalid and Helander (2006) proposed 5 dimensions of pleasures as customer emotional needs that are related to product use, including physical, social, psychological, reflective, and normative pleasure. Desmet et al. (2007) further introduced 10 types of feelings that can describe "pleasure" or "unpleasure" and adopted visual icons to illustrate them (Table 09). A pleasant feeling can be "desire", "fascination", "pleasant surprise", "satisfaction", and "amusement", while an unpleasant emotion ranges from "boredom",

“contempt”, “dissatisfaction”, “disgust”, and “unpleasant surprise”. It is noteworthy that the discussions of functional/emotional dimension of needs in the literature addresses the product-driven external needs of customers.

Pleasant emotions	Unpleasant emotions
Desire	Boredom
Fascination	Contempt
Pleasant surprise	Dissatisfaction
Satisfaction	Disgust
Amusement	Unpleasant surprise

Table 09: Types of customer emotions related to products experience [source: adapted from Desmet, et al., 2007]

### ***Expressed and latent needs***

Another approach to the categorisation of customer needs consider if customers can articulate their current needs (Slater and Narver, 1999). The needs that they can describe are expressed needs and ones that they are unable to express are called latent needs (Füller and Matzler, 2007; Slater and Narver, 1998; Slater and Narver, 1998). It is challenging for customers to articulate latent needs, because these needs are not yet present and requires time to emerge and become recognisable (Kristensson, et al., 2008). When using a product, customer can usually form definite expectations of how the product can fulfill their expressed needs. What makes a product stand out is its design that can fulfill latent customer needs, which is unexpected by the customers.

It has been discussed that customer research activities that focuses on customers' issues with current products can only identify expressed needs from customers (Matthing, et al., 2004; Witell, et al., 2011). It is because customers are restricted to their experiences with the existing products. Solely focusing on the fulfillment of expressed needs hinders businesses from developing breakthrough or radically innovative solutions (Atuahene-Gima, et al., 2005; Darroch and McNaughton, 2002). Scholars argue that ethnographic research based customer research methods, and customer co-creation/co-design/participatory design methods are believed to be able to unlock latent needs of customers (B. -N. Sanders, 2002; Patnaik and Becker, 1999; Moggridge and Atkinson,

2007; Binkhorst and Den Dekker, 2009; Miller, 2001; Hanington, 2003). These methods allow product researchers or developers to observe customers' behaviours or to exchange thoughts and ideas with customers over a period of time, which give rooms for latent needs to become articulable (Kristensson, et al., 2008; Brown, 2008; Slater and Narver, 1998; Blocker, et al., 2011).

A classic NPD tool - the Kano model associate different types of product features to different types of customer needs (Kano, et al., 1984; Xu, et al., 2009). Four types of product attributes are categorized in the model (see Figure 10) (Xu, et al., 2009; Matzler and Hinterhuber, 1998; Kano, et al., 1984). The “one-dimensional attributes” of a product are focused on addressing customers' expressed needs. Whether it is well fulfilled can result in linear increase or decrease of customers' satisfaction level with the product. Customers' latent needs are targeted by “attractive attributes” of a product. It can surprise customers and create a great level of satisfaction. However, the absence of it in a product design does not usually cause dissatisfaction. The rest two types of product features are “Must-be” and “indifferent” product attributes. The former is perceived to be the essential functionalities of a product. If it is not included or is poorly designed, the product can cause excruciating customer dissatisfactions. The indifferent attributes are the ones that does not perceived to be significant or relevant by customers. These approaches to specify needs can enhance the effectiveness of FEI team's research activities (Tontini, 2007).

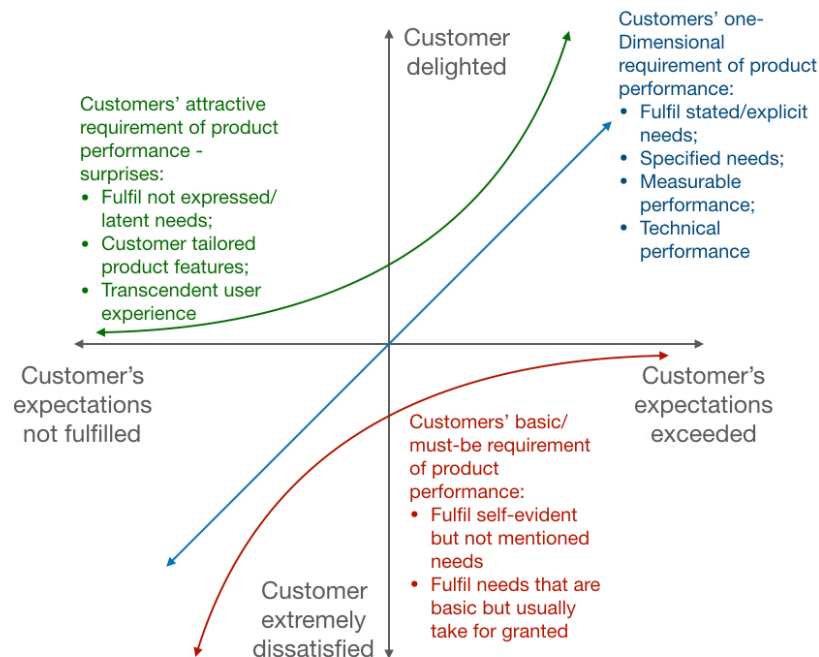


Figure 10: Kano model of customer satisfaction [Adapted from: Berger, et al., 1993 and Matzler and Hinterhuber, 1998]



### ***Different levels of significance of customer needs***

Customer needs can also be ranked according to significance. First, the House of Quality (HOQ) tool suggests that not all the needs are equally significant in customers' perceptions (Hauser and Clausing, 1988; Herrmann, et al., 2000). A product can hardly fulfill all the needs expressed by customers. Sometimes product specification that realise some needs that can, at the same time, oppose other needs. Therefore, HOQ requests the product research team to collect relative importance data of each need from customers, which can help them to prioritise all the identified needs (Chan, et al., 1999).

### **2.3.2[b] Internal and external search for information of customer needs**

Research suggests that customer needs information can be sourced both internally and externally (Reid and De Brentani, 2004; Zahay, et al., 2011; Chatterji and Fabrizio, 2014). Internal information sources of customer needs information can be past research data collected by marketing or a design team, and customer relationship management data collected by sales team, for instance. While internal information sourcing is relatively temporally and financially economic, external information allows more innovative insights to be defined (Reid and De Brentani, 2004). This study focuses on information shared by customers on social media or customer information collected through social media as an external information source to the NPD team. Firms usually conduct market/customer research (Price, et al., 2015; Rosenthal and Capper, 2006; Van Kleef, et al., 2005; Zomerdijk and Voss, 2011; Hauser, 1984) or design research (Rosenthal and Capper, 2006; Seidel and Fixson, 2013; Crilly, et al., 2004; Miaskiewicz and Kozar, 2011) to collect customer needs information.

### **2.3.2[c] Selecting customer research methods**

An extensive arrays of research tools or methods for customer involvement or customer research are discussed in the literature or adopted in the industry (Zomerdijk and Voss, 2011; Rosenthal and Capper, 2006). For instance, van Kleef et al.'s (2005) meta study reviewed 10 customer research methods. Additionally, over ten methods are also repeatedly introduced in a variety of design research toolkits published by leading design practitioners or scholars (Bruseberg and McDonagh-Philip, 2000; Kumar, 2012; IDEO, 2017; The d.school, 2017; Helen Hamlyn Centre for Design Royal College of Art, et al., 2017). There is not a technique that is perfect and the NPD teams need to choose appropriate approaches according to project needs and resources (Griffin, 1997; Zikmund, et al., 2013; O'Grady and O'Grady, 2017).

### **2.3.2[d] Levels of NPD project innovativeness and customer involvement in FEI**

Contradictory views about the effectiveness of customer involvement in FEI can be found in the literature, especially regarding NPD project with higher level of innovativeness (Norman and Verganti, 2014; Christensen, 2013; Atuahene-Gima, 1995; Von Hippel, 1986). Christensen (2013) suggests that the involvement of the customer is more likely to result in continuous innovation than more breakthrough, discontinuous or radical innovation products. It is aligned with Atuahene-Gima's (1995) findings that market orientation positively influences new product performance, especially when the newly developed product is incrementally innovative to both businesses and customers. However, he reminded the audiences that this does not lead to the conclusion that radically innovative products can achieve higher level of success without market orientation activities (Bennett and Cooper, 1981; Hayes and Abernathy, 2007). Historically, the reasons behind this phenomenon can be that businesses usually confront more intensive battles in the market for incremental innovations than radical ones, while market orientation benefits NPD more prominently when the level of competition is higher. Menguc et al.'s (2014) recent study of Canadian tech companies revealed similar findings that when the innovative level of an NPD project increases, the effectiveness of customer involvement declines. However, their discussions indicate that it might be the methods (traditional market research methods) that were adopted by the companies to acquire customer inputs that hinders the realisation of the creativity or innovation capabilities of the customers (Roberts and Candi, 2014). More recently, Feng et al., (2016) further breakdown the innovativeness into technology newness and market newness. These two dimensions helped to create a better understanding to the contribution that customer involvement makes within NPD projects when there is a high level of market newness and low level of technology newness. Norman and Verganti (2014) helped to unpack this debate by arguing that radical innovation comes from technology breakthrough instead of human centred design research based on the idea of customers' notions are restricted within current technological landscape.

Chatterji and Fabrizio (2014)'s study of medication product development revealed an alternative view. They found that collaboration with customers particularly benefited radical drug innovation, which typically involve technical breakthroughs. Co-creation literatures have also established that customers can be highly creative or innovative (Prahalad and Ramaswamy, 2000 ; Franke, et al., 2006; Hoyer, et al., 2010; OHern and Rindfleisch, 2010). It can be observed especially through lead users (Von Hippel, 1986). As an example, IT or software development firms have long been involving lead users to create breakthrough technology updates (Olson and Bakke, 2001). These lead users

realise needs much earlier than average users develop expertise through addressing needs by themselves (Franke, et al., 2006). The integration of lead users in FEI activities has been observed to provide radically innovative product insights or ideas (Kratzer, et al., 2016). In addition, De Brentani and Reid (2012)'s comparisons between information processing activities of incremental and radical innovations also does not deny the inclusion of customers, but rather emphasises the source of initiation of these activities. The FEI activities of incremental projects are usually initiated through a top-down approach from the high level of management functions in the firm, whereas the counterpart of radical innovation is often, and should be driven by individuals (Reid and De Brentani, 2004; De Brentani and Reid, 2012). In summary, cases that supports both sides of the debate exist. Therefore, it might be more practical for scholars and practitioners to enhance the development or selection of research methods used to involve customers, and to involve appropriate profiles of users for certain projects in order to fulfill their innovation goals (Iacobucci and Hoeffler, 2016).

### **2.3.2[e] Summary**

This section reviewed significant concepts that are relevant to customer needs and customer research in the FEI. It provided knowledge foundation of this study. It also highlighted that the FEI teams should carefully plan customer research activities according to the requirements and resources of the project to enhance customer needs identification. For example, in the context that customers are empowered to extensively exchange product related information on SM, it is reasonable for product researchers to involve SM in the customer research activities (Robert and Candi, 2014). The next section reviews and discusses 3 main emerging types of SM-involved customer research methods.

## **2.3.3 The Emergent Methods of Customer Research Through SM**

### **2.3.3[a] Introduction**

The destruction of communication hierarchy caused by SM has enabled individuals to openly share their needs and opinions about products with peers in their decision journeys (Kaplan and Haenlein, 2010; Labrecque, et al., 2013; Edelman, 2010). Researchers have suggested that it is reasonable to hypothesise that, by studying the information communicated by customers, or by harnessing the emergent open sharing culture, businesses can obtain valuable insights about customer needs (Heinonen, 2011; Roberts and Candi, 2014). While the majority of discussions about involving SM in businesses focuses on the rear end of NPD activities for product commercialisation or

market launch purposes (Culnan, et al., 2010; Kenly, 2012; Gayo-Avello, et al., 2013; de Vries, et al., 2012; Tucker, 2014; Booz and Hamilton, 1982; Cooper, 1990; Bughin, et al., 2011), some NPD researchers and practitioners have started investigating and conceptualising strategies of front-end application of social media out of the software or application development sector for the purpose of acquiring customer needs information (Roberts and Candi, 2014; Rathore, et al., 2016; Iacobucci and Hoeffler, 2016; Roberts and Piller, 2016; Bilgram, et al., 2011; Martini, et al., 2014; Antorini, et al., 2012; Arakji and Lang, 2007; Carr, et al., 2015; Füller, et al., 2009). However, only a small group of detailed cases are published, while no comprehensive models or frameworks about involving SM in FEI-focused customer research activities are proposed (Martini, et al., 2014; Carr, et al., 2015; Kozinets, 2010; Roberts and Candi, 2014; Roberts and Piller, 2016).

The literature review identified 3 main methods that are discussed by scholars in the topic of the implementation of SM in customer research to inform FEI: (1) social media co-creation (e.g., Martini, et al., 2014; Piller, et al., 2011), (2) netnography (online ethnography) (e.g., Kozinets, 2010), and (3) social media text mining (e.g., Carr, et al., 2015). The rest of this section presents the reviews of knowledge of these 3 methods in turn. The aims are to gain state-of-art knowledge for the study, to aid case study design, and to support the constructions of discussions.

### **2.3.3[b] SM Co-creation**

SM co-creation refers to the collaborative activities among product developers and customers in the process of NPD through SM platforms (Piller, et al., 2010; Piller, et al., 2011). It can be viewed as the extension of traditional customer co-creation method to the social media environment. The purposes include (1) to discover customer needs through the collection of product ideas generated by customers, (2) to trigger positive word-of-mouth of the business through collaboration, (3) to pre-confirm the purchase commitment from customers, as co-creators are willing to pay more and other customers are more willing to pay for co-created products, and (4) to establish a platform for customer communication and relationship building (Franke and Piller, 2004; OHern and Rindfleisch, 2010; Hoyer, et al., 2010; Gebauer, et al., 2013; Martini, et al., 2014). It is related to the SM-driven CDJ as it is executed in the same space – SM platforms – as where customers share product related information in their CDJ.

Co-creation can occur across the NPD process. However, the most common practices concentrate at (1) the front-end of NPD for new product ideation and concept

development or (2) the rear-end for market launch and post launch activities (Prahalad and Ramaswamy, 2004; Ramaswamy, 2008; Hoyer, et al., 2010). In the online context, the majority of publications focus on the latter domain (Romero and Molina, 2011; See-To and Ho, 2014). However, comparing to other SM FEI research methods, co-creation via SM received the most extensive attentions from researchers and practitioners. It is probably because of its alignment to the collaborative or open sharing culture that emerged on SM with the support of Web 2.0 ideology (O'reilly, 2007; Martini, et al., 2014). SM provided an accessible and convenient platform for individuals and organisations to communicate and collaborate freely with each other (Cova and Pace, 2006; Labrecque, et al., 2013).

Scholars have been exploring two questions about SM co-creation: (1) how SM influences co-creation activities (Piller, et al., 2011; Füller, et al., 2009) and (2) how to effectively conduct co-creation activities through SM platforms that will contribute to NPD success (Gebauer, et al., 2013; Martini, et al., 2014; Hossain and Islam, 2015; Sigala, 2012; Antorini, et al., 2012). The majority of the existing publications focuses on the presentations of specific cases, while the synthesised conceptualisations or modelling are absent. It can be because the investigation of this topic is at a nascent stage (Yin, 2013).

### ***The influences of SM on customer co-creation activities***

Opportunities and risks that SM brings to co-creation can be synthesised from the literatures. First, SM can strength the quality of the product ideas created by customers (Piller, et al., 2011). SM has enhanced the accessibility and convenience of communication among individuals and organisations (Cova and Pace, 2006; Labrecque, et al., 2013). This can ease the idea and feedback exchanges between customers and businesses during a co-creation project (Füller, et al., 2009; Hoyer, et al., 2010; Piller, et al., 2011; Gebauer, et al., 2013). In this situation, customers are enabled to agilely iterate and enhance their ideas through swiftly gain feedbacks from peers or businesses and be inspired by others' ideas. This can result in the growth of idea quality.

Second, a more diverse and larger group of customers can potentially participate in SM co-creation than in the traditional offline counterpart (Füller, et al., 2009; Piller, et al., 2011; Martini, et al., 2014). It can be attributed to the removal of time and location limitation, the flexibility of identity disclosure levels, the diversity of SM platforms, the many-to-many communication mode, the multiplicity of media types, the low cost of SM usage, and the independence from existing social networks characteristics of SM

communication (Ellison and boyd, 2013; Goldsmith and Horowitz, 2006; Kaplan and Haenlein, 2010; Faraj, et al., 2011; Berthon, et al., 2012; Kietzmann, et al., 2011). As a greater number and wider range of customers can be involved in the co-creation, a greater quantity and quality of product ideas and customer needs information can be acquired by the companies (Füller, et al., 2009; Piller, et al., 2011; Martini, et al., 2014).

Third, the multiplicity of media types, the robust data archival and retrieval functionalities, the absence of spatial and temporal restrictions, and the low-budget features of SM communication enables businesses to maintain and facilitate co-creation projects and establish communities (Ellison and boyd, 2013; Kaplan and Haenlein, 2010; Kietzmann, et al., 2011). First, businesses are equipped with a variety of SM platform functions to manipulate and tailor usages for different projects (Füller, et al., 2009). Second, customers and businesses can constantly create and build on ideas without losing track, as all the published ideas are archived on SM platforms automatically, which are also retrievable. In accordance with FEI literatures, customers latent needs require a period of time and continuous interactions between participants to become tangible to inform ideation in FEI (Kristensson, et al., 2008; Brown, 2008; Slater and Narver, 1998; Blocker, et al., 2011). This continuous communication enabled by SM provided soil to cultivate the emergence of latent customer needs. For example, some product ideas that enabled breakthrough innovation only blossomed at the second stage of the co-creation project in Martini, *et al.* (2014)'s case study. Finally, the formation of communities during the co-creation activities can grow customers' group commitment to the brand (Füller, *et al.*, 2009; Gebauer, *et al.*, 2013). It can also trigger a wide spread of customers' positive word-of-mouth (WOM) of the brand or new products. These 2 effects can reduce businesses' product launch risk through pre-assure product adoption from customers (Benedetto, 1999; Hultink, et al., 1997; Gebauer, *et al.*, 2013).

SM can also bring risks to customer co-creation projects. First, the growth of numbers of ideas increases the difficulty of the idea selection activities (Füller, et al., 2009; Hoyer, et al., 2010; Piller, et al., 2011; Gebauer, et al., 2013). Second, while SM can amplify the effect of positive WOM among customers, it can cause the magnification of the influences of negative WOM (Füller, et al., 2009; Gebauer, et al., 2013). Third, although the breakdown of location and time limitation of SM communication can ease the maintenance of lasting collaboration, it does not solve the issue that the communities formed on SM are usually more fluid than in the analogue world (Smith, 2010). This issue provided challenges for the project team to sustain a community (Füller, et al., 2009; Gebauer, et al., 2013). In addition, the variety and ever-changing functionalities of

platforms may request the FEI team to constantly learn new skills and adapt the co-creation process design (Hoffman and Fodor, 2010; Kaplan and Haenlein, 2010; Roberts and Candi, 2014; Roberts and Piller, 2016). Finally, SM has made it easier for customers to establish their own enterprise with the product ideas that they could otherwise submit to the firm (Kaplan and Haenlein, 2010; Gebauer, et al., 2013; Piller, et al., 2011). In this case, they become competitors instead of co-creators of the businesses.

***Suggestions of conducting successful SM co-creation activities that benefits FEI***

A series of principles of a successful SM co-creation project can be synthesised from the literature:

- (1) The SM co-creation organiser must set clear instructions and rules about idea submission and selection methods, customer rewards schemes, intellectual property, customer privacy, time frame, process, and communication mechanism between the customers and the organiser (Gebauer, et al., 2013);
- (2) The SM co-creation organiser must adopt an attitude of flexibility with any problems and changes that may occur alongside the project (Hoyer, et al., 2010);
- (3) The SM co-creation organiser are advised to release control in customers' activities that may result in the increase of intrinsic motivation and sense of joyfulness of customers (OHern and Rindfleisch, 2010);
- (4) The SM co-creation organiser should transparently and frequently update the participants about the progresses (Gebauer, et al., 2013);
- (5) The SM co-creation organiser should reward customers through a mixture of financial, social technological, and psychological benefits (Hoyer, et al., 2010);
- (6) The SM co-creation organiser must reduce the time and effort of customers to participate through the provision of toolkit, and the modularisation of the whole project (Hoyer, et al., 2010);
- (7) The SM co-creation organiser must establish appropriate facilitation plan and assign suitable employees or technologies to execute the task (Antorini, et al., 2012; Martini, et al., 2014)
- (8) The SM co-creation organiser are urged to take immediate, consistent actions to customers' queries with rich and open dialogues and a proactively attitude (Gebauer, et al., 2013);
- (9) The SM co-creation organiser must pre-plan strategies in dealing with conflicts (Gebauer, et al., 2013);
- (10) The SM co-creation organiser must endeavour to actively engage customers' in decision making in order to establish common agreements (Gebauer, et al., 2013).

These principles ensure relevance, quality, joyfulness, motivation and transparency of the co-creation activities, which enhance activeness and positive perception of the customers (Gebauer, et al., 2013; Antorini, et al., 2012; Martini, et al., 2014; OHern and Rindfleisch, 2010; Hoyer, et al., 2010).

Several noticeable SM co-creation cases have put these principles into practice. The consequences are largely positive. Starbucks's customer co-creation online forum "My Starbucks Idea" (Starbucks, 2017) launched in 2008 has collected 241814 new product, experience, or customer engagement ideas from customers, of which 1171 have been brought forward in concept development by May 2017 (see Figure 12). This practice has helped Starbucks to be constantly aware of customer needs and to build close relationship with customers, which has enhanced their NPD success (Hossain and Islam, 2015; Sigala, 2012; HBStudent2016, 2015). Another successful example is PleyWorld, an online co-creation platform built by toy rental company Pley that fully dependent on customers (Lego fans) to submit Lego building ideas (PleyWorld, 2017) (see Figure 11). The ideas that receive 5000 or more votes from peers will be reverse manufactured, packaged and be ready for rent by the public. The Italian Food brand Barrilla utilised its own customer online forum and Facebook Page (Facebook, 2017) to co-create new product ideas with customers (Martini, et al., 2014). Based on genuine interactions between Firm And the customers, both incrementally and radically new product ideas were created and implemented. Lego (Lego, 2017) has long been linked to co-creating new product ideas with customers, especially lead users who have deep knowledge and enthusiasm of the brand and its products (Antorini, et al., 2012; Franke and Von Hippel, 2003). It allows Lego to harness valuable expertise from these customers and reduce risk of NPD. More cases can be found in the software or computing related industry where the utilisation of technology is the organically embedded in their businesses, and an online community culture is usually established among their customers (Arakji and Lang, 2007; Kristensson, et al., 2008). Examples include the long-term video game Half-Life (Steam, 2017) co-creation of its game mods with lead users (Arakji and Lang, 2007; Half-Life on Steam, 2017) and Apache's co-creation approach that let different users to input their distinctive needs (Franke and Von Hippel, 2003; OHern and Rindfleisch, 2010).

Two observations are gained from the analysis of these cases: (1) firms tend to adopt SM co-creation as an approach to build relationships with customers rather than gathering breakthrough insights or ideas (e.g., Martini, et al., 2014; Hossain and Islam, 2015); (2) firms tend to construct their own social media platforms to host the core co-



creation activities, while using open or widely adopted platforms like Facebook solely as a channel to 'spread the word' and attract customers (e.g., Antorini, et al., 2012; Martini, et al., 2014). Therefore, if businesses can benefit their ideation quality in the FEI through conducting SM co-creation and on public SM platforms is questionable.

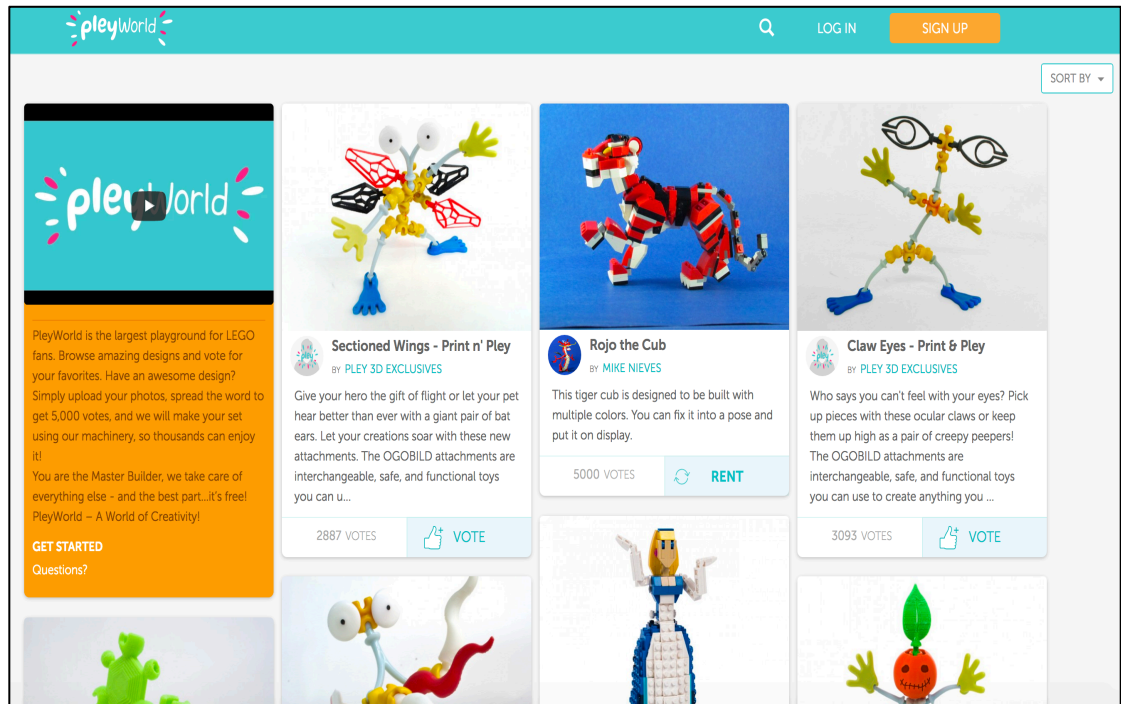


Figure 11: A screen clip of PlayWorld [Extracted from: PlayWorld, 2017]

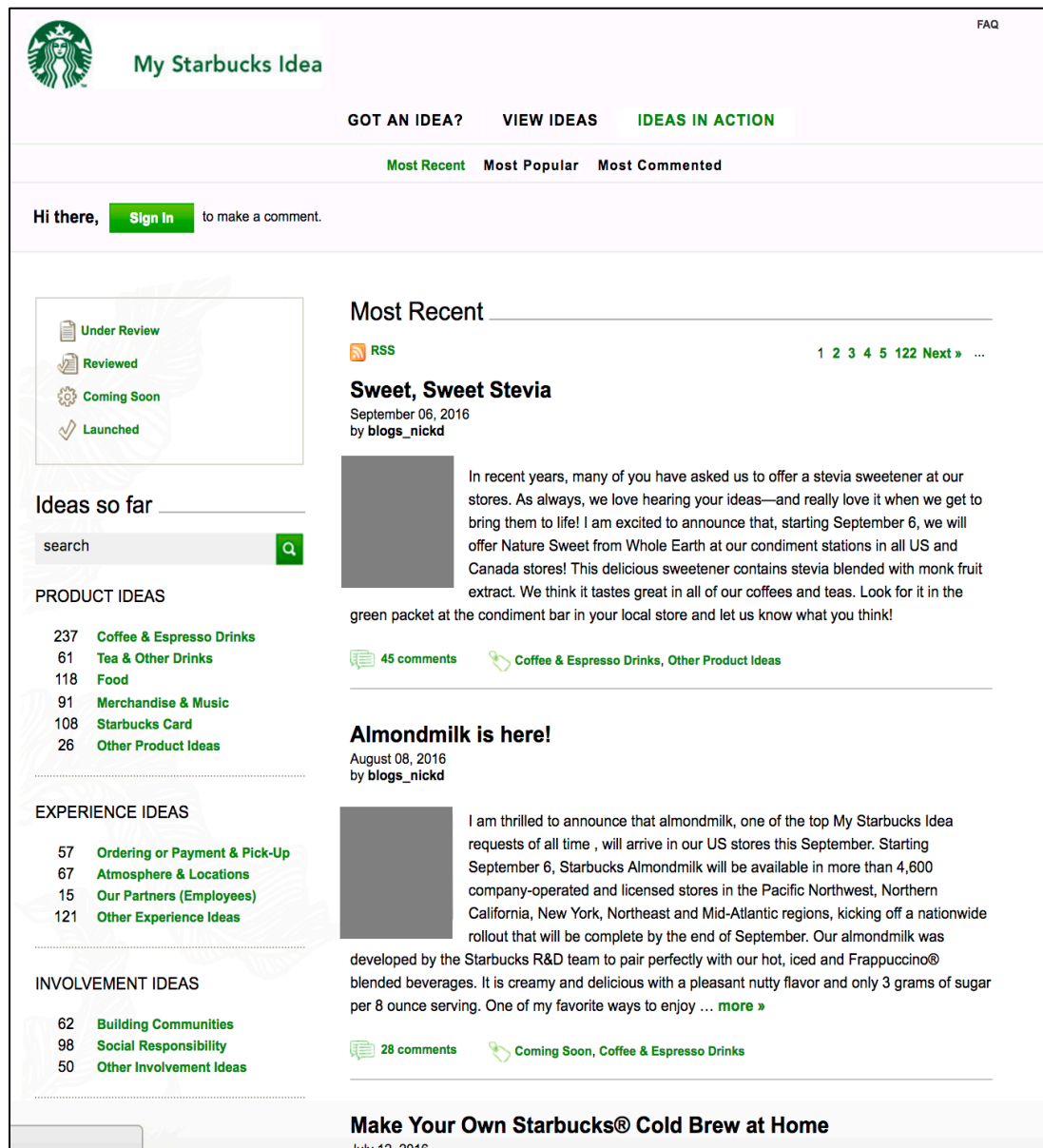


Figure 12: A screen clip of customer idea implementation announcement on My Starbucks Idea [Extracted from: My Starbucks Idea, 2017]

### 2.3.3[c] Netnography

Netnography is the ethnographic study of culture emerged in the computer mediated environment (Xun and Reynolds, 2010; Kozinets, et al., 2014). With the extensive penetration of SM in various aspects in the society, business activities and individuals' daily life, social scientists have demonstrate intensive enthusiasm in netnographic studies in terms of both the methodology itself and the application of it in studying online cultural phenomenon (Hine, 2008; Hine, 2015; Murthy, 2008; Kendall, 2004; Rotman, et al., 2012; Catterall and Maclaran, 2002; Kozinets, 2007; Elliott, et al., 2005; Nelson and Otnes, 2005; Bowler Jr, 2010; Mkono, 2011; Gehl, 2016). Kozinets (1997 and 1998) pioneered the ethnographic approach to online customer behaviour and culture study in

the marketing domain and coined the term "netnography". It is also referred to as online ethnography (Androutsopoulos, 2008), digital ethnography (Masten and Plowman, 2003; Varis and Georgakopoulou, 2016), or virtual ethnography (Hine, 2000). As this study focuses on online customer behaviour and NPD themes, "netnography" is the appropriate term to adopt. Netnography is related to the SM-driven CDJ as it can be used to observe customers' behaviours and explore the contents that they communicate on SM.

Netnography has inherited elements from traditional ethnographic studies while integrating online environment as a subject, a context, and/or a communication tool (Hine, 2000; Kozinets, 2010). The methods can include participant observation, non-participant observation, interviews, or any approaches that are common in ethnographic studies but with consideration of the online nature of the study subjects (Xun and Reynolds, 2010). It needs to be clarified that netnography is not necessarily conducted online. For example, to find out an online parenting community's characteristics, researchers can conduct offline interviews with the community members. However, since the interactions between online community members occur online, it is almost inevitable for researchers to enter a website or application. Not to mention how significant is the immersion in observees' context for conducting a successful ethnographic study (Burawoy, et al., 2000; Reeves, et al., 2008). The "data" collected in a netnographic research can also be similar to its analogue ancestor, which usually is comprised of researchers' field notes and the "artefacts" they collected from the field (Kozinets, 1998; Kozinets, 2010). The media form of the data collected largely depends on the nature of communication between the online community members, which is also determined by the online platform functionality. With the development of technology, emerging forms of data can appear constantly (Biocca and Levy, 2013). Hence, researchers are required to keep their skills up-to-date (Simone Guercini, et al., 2014).

Both advantages and disadvantages of social media netnography are discussed in the literature. Since ethnographic approach is believed to be able to unlock latent customer needs, netnography, as a branch of it, should inherit this benefit (Hanington, 2003). In addition, netnography researchers can benefit from the social media characteristics and involve wider customer groups, be flexible with schedule, reduce costs, have access to automatically and permanently transcribed and archived data (Xun and Reynolds, 2010). On the other hand, the concerns of the authenticity of the respondents, lack of systematic methods, instability of the community, and a potential reduced social cue of non-face-to-face interaction typically issues of consideration. The debate about whether purely

"lurking" without noticing the subjects also has not reached a consensus between scholars (Garcia, et al., 2009; Kozinets, 2010; Bilgram, et al., 2011).

Several differences between netnography and SM co-creation can be observed so far. Unlike the implementation of SM co-creation, in which practitioners tend to construct their own platform, the conduction of netnography is usually on existing public online platforms (Kozinets, 2010). It is because netnography targets at studying the naturally emerged culture in any online communities (Kozinets, 2010; Hine, 2000). Nevertheless, it can also be used as a methodology to investigate those brand-owned co-creation SM sites.

Besides, two types of activities are involved in netnography to generate data (Xun and Reynolds, 2010; Kozinets, 2010; Hine, 2000). It observes, collects, and analyses the existing information that individuals left on the web, while also create new data through the interactions between researchers and research subjects. The former way does not require direct contacts between the researcher and the research subject, whereas the latter approach necessitates (Baker, et al., 2015). On the contrary, SM co-creation does not utilise what customers already posted on SM. Instead, it is purely based on customers and product developers/researchers' collaborative efforts to create new data as product ideas (Piller, et al., 2011). From this perspective, netnography demonstrates the advantage of realising the value of the massive volume of existing customer information or UGC on the SM.

The third difference is that co-creation aims at direct collection of product focused needs information from customers, whereas netnography endeavours to research about the culture of the target group deeply and allows insights about their needs to emerge gradually (Piller, et al., 2011; Kozinets, 2010). Hence, the outcome of co-creation might be easier to translate into defined product concepts, while netnography might provide a more profound understanding of customers and their latent needs (Hanington, 2003; Kozinets, 2010). However, researchers suggested that a well-designed and conducted co-creation project can also reveal customers' latent needs (Martini, et al., 2014; Witell, et al., 2011; Blocker, et al., 2011).

Finally, through the allowance of active customer involvement, co-creation seems to be more likely to trigger positive customer relationship, commitment and WOM activities (Füller, et al., 2009; Gebauer, et al., 2013). Depending on the resources and aims of an NPD project, the FEI team may consider these differences for FEI research methods selection.

Although netnography has been adopted to study online customer behaviour and culture (Simone Guercini, et al., 2014), most cases are grounded in the purpose of enhancing rear-end NPD activities (product launch and post launch strategies) instead of front-end ideation related activities (Xun and Reynolds, 2010; Simone Guercini, et al., 2014; Bartl, et al., 2009; Bowler Jr, 2010).

### **2.3.3[d] SM text-mining**

SM text mining is a technique based on natural language processing, which aims at using computers to automatically identify meaningful information from unstructured textual data that exists on SM (He, et al., 2013; Petz, et al., 2014). It can be viewed as automated content analysis that is useful wherever a massive body of texts exist on SM and can potentially provide valuable information or knowledge (Heatley, 2017). In the business domain, it is usually used to collect and analyse user-generated contents (UGC) for the purpose of customer needs understanding and opinion tracking for rear-end NPD activities like sales optimisation, marketing communication, and customer relationship management (Zhang, et al., 2012; Nassirtoussi, et al., 2014; He, et al., 2013; Urban and Hauser, 2004; Mostafa, 2013). Contemporary customers extensively exchange information about products for pre-purchase and post-purchase needs and satisfaction evaluation on SM in their SM-driven CDJ (Kaplan and Haenlein, 2010; Labrecque, et al., 2013; Edelman, 2010). Hence, it is reasonable to believe that, through text-mining of customer generated product related information on SM, firms can extract needs related information that can inform FEI ideation (Roberts and Candi, 2014). Therefore, the trigger for SM text-mining to become a customer research method in FEI is the existence of the great volume of customer-created information on SM, which is a predominant phenomenon in SM-driven CDJ (Bello-Orgaz, et al., 2016; Carr, et al., 2015; Court, et al., 2009). However, limited evidences in this domain can be found in literature (Carr, et al., 2015; Christensen, et al., 2017).

As with netnography, text mining can benefit businesses through the harness of the enormous body of existing customer conversations on SM (He, et al., 2013; Carr, et al., 2015; Christensen, et al., 2017; Bello-Orgaz, et al., 2016). Another benefit of the implementation of text-mining is the massive acceleration of texts analysis (He, et al., 2013). This benefit made the large-scale utilisation of, for example, customer product review data within an acceptable time frame and with a low budget possible (Bello-Orgaz, et al., 2016; Carr, et al., 2015).

Limitations also exist in the implementation of SM text mining. As an emergent technology, some capabilities like target group identification and accurate sentiment analysis are still under exploration (Petz, et al., 2014). Also, without specific algorithm packages, the text-mining of customer product related conversations on SM might only reveal expressed needs with the absence of latent needs (Zhou, et al., 2015). It is because customers usually can only disclose their experiences with current products, or the needs they are aware of and can articulate. In addition, not all individuals use SM (Correa, et al., 2010; Mislove, et al., 2011). Solely focusing on mining SM texts could lead to a biased view about customer needs. Finally, text mining does not directly ask customers questions but relies on whatever texts have been posted by the customer (Carr, et al., 2015; Bello-Orgaz, et al., 2016). As there is only a limited number of studies that investigated the usage of SM text-mining in FEI-focused customer research, more researches are needed to test and verify the advantages and disadvantages.

It can be inferred through the critical reviews of the three emerging SM customer research methods that none of them are perfect. The FEI team should tailor the selection of methods and carefully design them for their projects (Griffin, 1997; Zikmund, et al., 2013; O'Grady and O'Grady, 2017).

### **2.3.3[e] Summary**

This section reviewed and discussed about the three main emerging customer research methods that involve SM – SM co-creation with customers, Netnography, and SM text-mining. The emergence of all the 3 methods are established upon customers' SM-driven CDJ, where customers extensively share product opinions with each other on SM platforms. SM has become a dominant communication platform for customers (Court, et al., 2009). Similarly, SM co-creation adopt SM as the space for FEI teams to collaborate with customers (Füller, et al., 2009; Roberts and Piller, 2016). In other words, customers' SM-driven decision journey inspired FEI professionals to adopt SM as a platform to conduct co-creation research. For the use of netnography in studying about customers, customers' behaviours, opinions and cultures that occurred in their SM-driven CDJ provided material for netnography to investigate (Kozinets, 2010). Finally, as customers publicly share a greater amount of product related information on SM in their SM-driven CDJ, the information demands an efficient way like text-mining to make sense of it and provide signals for businesses (Carr, et al., 2015). Is the SM-driven CDJ a conscious or unconscious activity?

In accordance with the reviews of the three methods, most of the literatures focus on the implementation of them in market launch activities at the rear-end of NPD. However, these methods have the potentials to discover signals that can inform ideation in FEI. More studies are needed to explore and rationalise how can they be used in customer research in FEI and why.

## **2.4 Conclusions of Literature Review**

Through the literature review, the state-of-art knowledge of how SM influences customers' decision journey, what are the implications of the SM-driven CDJ on businesses' FEI-focus customer research activity, and how might businesses leverage the SM-driven CDJ are established. It allowed several imperative themes to emerge, while suggested knowledge gaps to explore in the empirical study.

### **2.4.1 The impact of SM on CDJ and the need of a more rigorous and in-depth investigation**

First, the literature revealed the impact of SM on the customer decision process. SM minimised customers' internal information search activity, in which they search for their impressions of products gained from exposure to producers' or retailers' marketing messages (Court, et al., 2009) (see Figure 13 for the illustration of the SM-driven CDJ model). Instead, customers extensively search for information from SM sites. The dominant information source is peer customers' product opinions that are shared on SM platforms. Customers perceive the peer knowledge to be prominently more trustworthy than businesses' marketing communications. Besides pre-purchase information search, the accessibility and convenience of SM also enabled customers' to acquire more information at the moment of purchase and while using the product to optimise the evaluation and usage of the products. The main information source is also peer-created contents on SM. Additionally, customers are also enabled to openly share their satisfaction or dissatisfaction on SM, which are utilised by other individuals to inform their product selection decision-making. In summary, SM empowered customers' information search and contribution activities between peers in their CDJ. It also disempowered businesses, as they are no longer able to confidently utilise traditional marketing efforts to influence customers' product selection decision-making.

Although the current literature provided valuable observation of the SM-driven CDJ phenomenon, it lacks rigorous and in-depth investigation for detailed understanding in a specific market context. For example, the questions of how long do customers conduct

the extensive information search before becoming familiar with the products and reduce the intensity of information acquisition, and where or how exactly do customer search for information cannot be answered by the existing knowledge. In addition, the McKinsey CDJ model is neither published in peer reviewed academic journals, nor supported by detailed information about its research methodology and data. In the meanwhile, there is not a systematic conceptualisation of customer decision making process that highlights the influences of SM in existing academic publications. Also, there is a lack of context, sector, or segmentation specific cases that is documented in detail, which can significantly add knowledge to this recently emerged CDJ phenomenon and research area. Therefore, a rigorous academic study that examines and extends the McKinsey CDJ model, and provides detailed insights of customers' decision-making process and activities in a specific sector and market is in demand. This established the first focus of the empirical study.

#### **2.4.2 The implications of SM-driven CDJ on businesses customer research activities in the FEI**

The review of existing research suggests that businesses' customer understanding efforts in the FEI need to establish new strategies to confront challenges brought by the SM-driven CDJ. Most of the academic publications focus on providing advice about the development of new market launch strategies in rear-end of innovation or late NPD stages, like SM marketing plans (Kaplan and Haenlein, 2010, Kozinets, 2010, Kietzmann et al., 2011, Tucker, 2014) (see Figure 13). Only a few scholars investigate how businesses can innovate their FEI activities and benefit from the SM-driven CDJ (Roberts and Candi, 2014, Roberts and Piller, 2016). On the other hand, the SM-driven CDJ findings indicate that businesses can utilize the great number of product opinions that are created and shared by customers on SM in their CDJ to inform new product ideation in FEI. Another indication is that businesses can leverage SM platforms as a communication space like what their customers do to conduct customer research sessions to inform FEI idea generation activities. Therefore, how and why (or why not) SM-driven CDJ can influence companies' customer research activities in FEI are worth studying. As customer research activities is a success factor of FEI and NPD, this direction of scholarly investigation can add knowledge to the NPD literature.

Through the review of the small number of existing academic enquiries that resides in the intersections of SM and customer research, three emergent customer research methods that involve SM can be identified, which are SM co-creation, Netnography and



SM text-mining. However, the implementation of these methods are also significantly more discussed for rear-end of NPD market launch activities than for FEI-focused customer research activities. This trend is especially observed in SM text-mining. Therefore, there is a need for more academic studies about why / why not and how SM text-mining can fulfill the requirements of customer research. It can be viewed as a sub-issue of “how and why (or why not) SM-driven CDJ can influence companies’ customer research activities in FEI” mentioned in the preceding paragraph.

### **2.4.3 The research questions**

The literature review resulted in 2 research questions that leads and facilitates the design and operation of the empirical study (see Chapter 3). They are also used to extract imperative findings from the empirical study (see Chapter 4), frame the contribution to knowledge (see Chapter 5 and 6), and conclude the study (see Chapter 6).

The research questions that the empirical study is set to explore are defined as:

(1) How and why do customers access and employ social media (SM) in their “decision Journey”?

(2) How does SM-centred CDJ influence businesses' customer research activities in FEI and why?

(2a). Has SM-driven CDJ provided new sources of customer data and new customer research methods that can be used in customer research activities in the FEI?

(2b). To what extent, and in what ways can customer-generated product information on SM help business to identify customer needs and thus inform product innovation and why (and how does this compare with traditional customer research methods)?

(2c). How do VBR tools affect customer research activities?

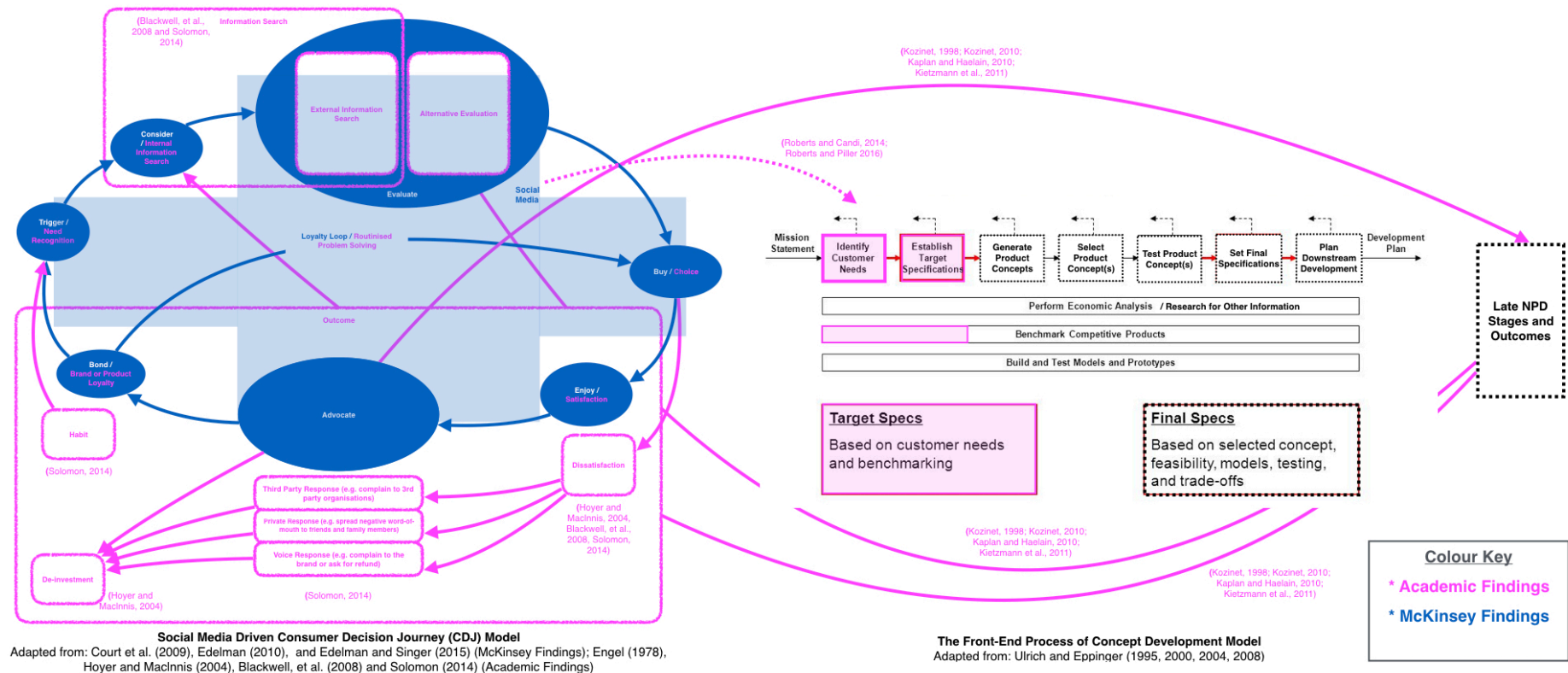


Figure 13: the Combined SM-driven CDJ model and FEI model that demonstrate the lack of studies of how SM-driven CDJs influence FEI [source: adapted from Court et al., 2009; Edelman and Singer, 2015; Engel, 1978; Hoyer and Machnis, 2004; Blackwell et al., 2008; Solomon, 2014; and Ulrich and Eppinger, 1995, 2000, 2004, 2008]

## **3 OPERATIONALISATION OF THE STUDY: APPROACHES AND TOOLS**

The aim of this section is to present the considerations behind the design of the study. First, a revisit of the aims, objectives and research questions of the study is conducted to set the focus and provide guidance of the research design. It is followed by the justifications of the adoptions of the philosophical stance – interpretivist and qualitative, and research methodology – a “data-driven” and “human-driven” blended strategy. Finally, the last part presents the specific design of the study that clarifies the data collection and analysis methods and the limitations of the study.

### **3.1 Aim, Objectives, and Research Questions**

Research methodology scholars commonly emphasise the alignment between research design and the aims, objectives, and research questions of the study (Yin, 2013; Silverman, 2013; Denzin and Lincoln, 2008; Robson and McCartan, 2016; Creswell, 2013). The aims of the research are: (a). to explore, describe and explain the impact of social media (SM) on consumer decision journey (CDJ) and (b). to draw implications for customer research activities in the front-end of innovation (FEI) in the context of SM-centred CDJ in the infant diaper sector in China. To fulfil the aim, the following objectives were established:

- (1) To develop an in-depth and detailed understanding of the SM-centred CDJ of diaper product customers in China;
- (2) To develop a descriptive framework of SM-driven CDJ of the FMCG customer in China;
- (3) To create an in-depth understanding of how FEI-focused customer research activities can be influenced by SM-driven CDJ;
- (4) To position the study in the context of the Chinese diaper product market through the observation and execution of a real-life business case.

In accordance with these aims, a series of research questions – designed to drive the empirical study - were derived in the course of engagement with relevant literature (see Chapter 3):

(1) How and why do customers access and employ social media (SM) in their “decision Journey”?

(2) How does SM-centred CDJ influence businesses' customer research activities in FEI and why?

A small group of literatures suggest that the SM-driven CDJ provides new sources of customer data (information left by customers on SM platforms) and new customer research methods (SM text-mining, SM co-creation and digital ethnography). As relevant research is at a nascent stage, the researcher is keen on providing evidences that could confirm or disconfirm the above point of view. In addition, the issue of how well can the new customer data sources and customer research methods might inform businesses about customer needs has received little attention in existing academic research. Among the three emerging SM customer research methods, a knowledge gap of how well can SM text-mining help business to understand customer needs for the FEI purpose is highlighted by the literature review (see Section 2.3.3[d] and 2.4.2). It is because, unlike SM co-creation and digital ethnography, SM text-mining is less associated with FEI activities but more linked to market launch efforts of businesses. Lastly, although existing research provided suggestions on how to conduct SM co-creation studies, findings about how to use visual based research (VBR) tool for facilitation are absent (whereas using VBR to assist customer research is a common practice in the industry, in accordance with the author's practical experience). In consequence, 3 sub-research questions of the second research question are derived from above considerations:

(2a). Has SM-driven CDJ provided new sources of customer data and new customer research methods that can be used in customer research activities in the FEI?

(2b). To what extent, and in what ways can customer-generated product information on SM help business to identify customer needs and thus inform product innovation and why (and how does this compare with traditional customer research methods)?

(2c). How do VBR tools affect customer research activities?

The clarification and reviews of these aims, objectives, and questions provided directions of research methodology and data collection methods selection and design. These are discussed in the rest of this chapter.

## **3.2 Rationale of Research Methods Adoption**

### **3.2.1 Philosophical Stance of the Research**

This section presents the researchers' considerations behind the adoption of the philosophical approach for this study –interpretivist and qualitative.

In accordance with existing understanding of consumer behaviour, factors such as consumer types, product types, motivation to purchase, cultural environment or other personal, situational, psychological and social factors can affect the consumer decision process (Hirschman and Holbrook, 1982; Feick and Price, 1987; Schmidt and Spreng, 1996; Blackwell, et al., 2001; Guo, 2001; Park and Lee, 2009). Similarly, customer research activities in FEI frequently require an understanding and acknowledgement of varied contexts and personal or organisational actions (Koen, et al., 2001). In other words, the ontological nature of these events is not "universal truths" but rather happenings conditioned by locations, time, individuals, organizations, or other factors (Robson and McCartan, 2016). Any social phenomena can hardly be a pure rational event operated upon universal laws. Instead, these are the "products" of human beings, their conscious or unconscious, purposive or unpurposive thoughts and actions. Therefore, it was decided that an interpretivist stance rather than a positivistic approach should be adopted in this study.

The positioning of this study into the interpretivist realm also defines the approach to this study to reside in the qualitative paradigm (Johnson and Onwuegbuzie, 2004; Robson and McCartan, 2016). Although CDJ process and FEI-focused customer research activities can be observable as factual event, the researcher must question the human beings who participated in them about their beliefs and values to truly comprehend how and why the phenomena occur. Questioning the "how" and "why" of customers' CDJ processes and SM adoption, and the "how", "how well" and "why" of the reaction of a businesses' FEI activities to the SM-driven CDJ phenomenon can help the researchers to truly answer their research questions. It means that subjectivity, either from the research subjects being studied, or from the researchers' participation or interpretations, is valued. This consolidate the adoption of a qualitative-led approach of this study. As Merriam (1998) summarised, the features of qualitative research include: "the goal of eliciting understanding and meaning, the researcher as primary instrument of data collection and analysis, the use of fieldwork, an inductive orientation to analysis, and findings that are richly descriptive". The researcher used this statement to assess the research design of this study.

Additionally, the phenomena that are studied in the study are grounded in the context of the rapid and widespread adoption of social media among individuals and organisations. The context is the soil of the phenomena and cannot be neglected. Therefore, a positivistic ontological stance, and a quantitative approach to research was deemed to be inappropriate for the study (Silverman, 2013; Robson and McCartan, 2016). This is because these approaches are used to help eliminate the context of the occurring events, which can result in a partial or biased observation of the events (Creswell, 2013; Guba, et al., 1994).

### **3.2.2 Justification of the Adoption of a “Data-Driven vs Human-driven” Blended Research Strategy**

A blend of data-driven and human-driven approach was selected as the research strategy of the study (Lohmeier, 2014; Hsu, 2014; Curran John, 2014). This section first articulates what are data-driven and human-driven research approaches in the context of this research. It is followed by justifications that can support the adoption of this blended strategy, which rationalise the inclusions of a data-driven strategy, a human-driven approach, and the combination of both. Most significantly, the adopted research strategy must possess the capability to respond to the research questions (Silverman, 2013; Robson and McCartan, 2016; Kamler and Thomson, 2014), which will also be addressed in this section.

#### **3.2.2[a] The adoption of data-driven strategy**

In a broader context, “data-driven” approaches refers to research activities that mainly relies on “big data” or data science to collect and analyse data automatically by computers (Curran John, 2014; Provost and Fawcett, 2013). It is derived from the recent and intensive academic and industrial attention on how to identify, harness and utilise the exponentially growing personal and organisational data generated in the digital networks (boyd and Crawford, 2012). Scholars and practitioners believe that, if executed properly, the data-driven approach can significantly enhance managerial decision making (McAfee, et al., 2012). They hypothesised that this approach allows individuals to have access to and make sense of an enormous quantity of information efficiently, so they can be better informed prior to decision making (Provost and Fawcett, 2013; McAfee, et al., 2012).

An extensive variety of data types from various sources (like numerical, textual, vocal, image, video, location, personal activities and genetic data from SM platforms, mobile health applications, or government open data archives) are addressed by the “data-driven” approach (Jones, 2014; LeCun, et al., 2015; Ramanathan, et al., 2013; Janssen, et al., 2012). Furthermore, the data-driven approach can be used to process both existing and publicly available data, or data that were generated for a certain research initiative. In this research, the “data-driven” approach refers to using computer to automatically collect and analyse individuals’ textual posts that already exist on social media platforms (i.e., social media text-mining) (He, et al., 2013; Ampofo, et al., 2015).

The adoption of the data-driven strategy is naturally occurred, as the literature review called for study of how social media text-mining can be used to conduct customer research in a company’s FEI activities (see Section 2.3.3[d] and 2.4.2). It is because an increasingly large quantity of product reviews generated by customers already exist and are accessible for processing (Kaplan and Haenlein, 2010). While businesses realised that these data could indicate customer opinions and needs, a few of them attempted to leverage them to inform their FEI activities (Roberts and Candi, 2014). The literature also indicated 4 limitations of the SM text-mining approach, which requires further evidences especially in the context of FEI-focused customer research activities.

The second reason to adopt a data-driven approach is derived from the need to respond to research questions. It is necessitated to answer research question 2a and 2b. Potentially, it can also provide indirect insights into the exploration of the first research question. The literature suggests that a characteristic of the SM-driven CDJ is the active product-related information sharing between customers via social media platforms (Edelman, 2010; Edelman and Singer, 2015). These communications are usually performed in the textual format (Kaplan and Haenlein, 2010; Mostafa, 201). Therefore, whether a large quantity of customer product reviews can be mined from a certain social media site can indicate whether the site is significant in target customers’ SM-driven CDJ. The identification of SM sites that are frequently used by customers can provide descriptive findings of the first research question.

### **3.2.2[b] The adoption of human-driven strategy**

While the needs and rationale of adopting the “data-driven” strategy was established, the researchers also identified the requirements and benefits of introducing a “human-driven” strategy for evidence corroboration.

In the context of this research, a “human-driven” approach means to conduct research through the collection and analysis of data mainly manually by a researcher or a group of researchers (Lohmeier, 2014). For example, if a research question is what features do customers like of a nappy product, a “human-driven” approach may involve researchers downloading, reading, and line-by-line analysing a number of customers’ forum posts or interviewing a group of customers, instead of conducting a text-mining study of forum posts. Before the “big data boom”, the “human-driven” approach has been the norm of research strategy in the qualitative domain of academic research and qualitative customer research activities in businesses’ NPD process (McAfee, et al., 2012; Lohmeier, 2014; Qi, et al., 2016; van Kleef, et al., 2005).

The needs of a “human-driven” approach was first derived from the need to provide a comprehensive and in-depth response to the first research question. It is significantly more challenging to use computers to automatically detect traits of customers’ entire decision journey from publically available SM data than through directly asking the customers for details of their CDJs. Even the leading search engine provider Google.com used surveys to directly seek answers from customers for the construction a generic report of CDJ (Google, 2018). It did not leverage the automatically collected enormous volume of consumers’ click-through and search data to map the journeys (Joachims, et al., 2017; Choi and Varian, 2012; Google, 2018).

In addition, a skepticism of the “data-driven” approach in terms of whether appropriate data can be found on the web and if the current data-mining and analysis technologies can unlock sufficiently rich insights developed during the researcher’s review of relevant literatures (Lohmeier, 2014; Ampofo, et al., 2015). In other words, literature suggested that the “data-driven” approach is accompanied by limitations (see Section 2.4.3[d]). Therefore, it is valuable to establish a comparison between the established “human-driven” approach and the emerging “data-driven” approach and draw implications to answer the second research question.

This blended design also aligns with a group of social scientists’ advocates of “thick data”, meaning a mixture of computer enabled “big data” and in-depth human observation, or an integration of a “data-driven” and “human-driven” approaches (Lohmeier, 2014; Curran John, 2014). Based on the recognition that the advantages of one approach can often compensate for the other’s disadvantages, these scholars suggested a combination of both for the maximisation of their effectiveness in research (Wang, 2013).



The researcher determined to adopt this suggestion and to assess its appropriateness in the context of FEI-focused customer research activities.

### **3.3 The Design of the Data-Driven and Human-Driven Blended Research**

Following the justification of the research approach adoption, this section introduces the design of the study. The articulation of the study design aims at logically binding the research questions, data collection and analysis methods, and conclusions to demonstrate the flow of the research (Creswell, 2013; Robson and McCartan, 2016; Yin, 2013). The section adopts the following structure (Kamler and Thomson, 2014; Silverman, 2013; Creswell, 2013):

- Theoretical Propositions;
- Data Collection Methods Selection and Employment;
- Data Analysis and Finding Development Methods
- Research Limitations

#### **3.3.1.Theoretical Propositions**

Various fashions of theory inclusion in qualitative study are recognised by researchers (Denzin and Lincoln, 2008; Robson and McCartan, 2016; Creswell, 2013). Creswell's (2013) proposal of 4 approaches can be considered as a comprehensive summary:

(1) Theory can be used as interpretations of behaviours and attitudes that might present variables, constructs, and hypotheses, as in quantitative research. However, the "theories" in qualitative studies are usually sketchy and referred to as "themes". Researchers can still "test" these themes in empirical studies.

(2) Theory can be used as "lens or perspectives". These lenses are usually widely recognised, such as feminist perspective or queer theory. The adoption of these lenses can profoundly shape or orient the purpose, topic, questions, subjects, data, researchers' role, and documentation style of the research.

(3) Theory can be the end product of the research. It is an inductive approach, with which researchers develop theories, themes, or interpretations from the data they collect, and comparatively link these with prior researches or their own experiences.

(4) Theory might not be adopted at all. Researchers adopting this approach investigate and document a phenomenon in-depth and in-detail, and endeavours to extract nature or principles of the phenomenon.

Yin (2013) suggests that the development of prior theoretical propositions can guide the research to flow from research question forming to data collection. This allows the research to benefit from an appropriate utilisation of existing theoretical knowledge (Carson, et al., 2001).

In this research, (1) the SM-driven CDJ and (2) how the SM-driven CDJ affects customer research activities in the FEI are the central phenomena to be studied. Past research provided valuable but imprecise descriptions and or explanations of the phenomenon. In this situation, it is not appropriate to neglect the existing knowledge, while the need for the exploration of new themes is explicit.

More specifically, existing research provided themes like the McKinsey consumer journey, which can be applied to “test” SM-driven customer decision making behaviour in a certain context. However, as the existing theme lack concrete real-life evidences, it also leaves an open space for new findings to emerge and new themes to be developed. Therefore, the researcher adopted a combination of the first and the third approaches of theory adoption proposed by Creswell (2013), which means to consider theoretical propositions – the existing ones - as “themes” to test in the main study and to analyse findings, and as an end product of the study - the new theoretical propositions. This strategy provides directions to data collection, prevents the repetition of studying what have been studied, confirms the significance of the study, and provides opportunities to the construction of new theories (Perry, et al., 1999; Hartley, 2004; Yin, 2013; Kamler and Thomson, 2014; Stake, 2005). In the conclusion section of Chapter 3: Literature Review, a series of theoretical propositions were proposed, which were adopted to guide the empirical study.

### **3.3.2 Data Collection Methods Selection**

SM text-mining (fulfilling the “data-driven” research strategy) and face-to-face focus groups (fulfilling the “human-driven” research strategy) are adopted as data collection methods in the empirical study. SM text-mining is employed to collect evidences for the second research question and sub-questions, while face-to-face focus groups are used to approach both research questions (including sub-questions).

The rationale of employing SM text-mining method is threefold. First, literatures called for study of how social media text-mining can be used to conduct customer research in a company's FEI activities (see Chapter 2.3.3[d] and 2.4.2). Second, among all the emerging SM research data collection methods (SM text-mining, online ethnography, and online co-creation), SM text-mining is the most different approach from the traditional customer research methods used in the industry (Van Kleef, et al., 2005). Online ethnography extends the traditional ethnographic style customer research to study online customer community, while online co-creation migrates customer co-creation study from offline space to online platforms. In contrast, SM text-mining requests the adoption of new computing approach to collect the new type of customer data – SM data. Therefore, the researcher anticipates the study of SM text-mining methods can provide significant contribution to new knowledge. Finally, in accordance with the researcher's industrial experience, businesses are keen on exploring how SM text-mining can boost their innovation capabilities. Therefore, the proposal of testing this method allowed the researcher to collaborate with a leading fast-moving consumer goods practitioner in the Chinese market. It enabled the study to fulfil the fourth research objective: to position the study in the context of the Chinese market through the observation in a real-life business setting.

Four justifications can support the selection of the focus groups method. Most fundamentally, it is capable to respond to the research questions (see Section 3.3.4 for details of the method employment). Although individual interviews can also fulfil the needs to acquire findings, it requires greater amount of time and budgets than the research agenda can afford. Additionally, focus groups, also known as group interviews, are the most typical qualitative customer research method used in the industry. Therefore, the researcher anticipates that the comparison between the effectiveness of SM text-mining and focus groups can yield significant findings for the second research question and its sub-questions. Third, although directly testing the online/SM customer co-creation research method is beyond the scope of this study, the researcher plans to test a series of digitisable research tools that can be used to facilitate online co-creation or ethnographic research sessions. It can provide indications for research question 2d and can imply future research directions. As online/SM customer co-creation or ethnographic research are conducted in a group or community setting, it is reasonable to test the tools in focus groups instead of individual interviews. Finally, offline and face-to-face focus groups method is widely used in the industrial settings as a customer research method for FEI purposes (Ciccantelli, et al, 1993; Bosch-Sijtsema and Bosch, 2015; Roberts and Candi, 2014). Therefore, the researcher was keen on adopting the

long established focus groups method as a benchmark to identify the advantages and disadvantages of the new SM text-mining method, and draw implications of how SM affect customer research activities in the FEI.

Finally, the researcher determines not to include the direct implementation of online co-creation or ethnography based on considerations of limitations of resources and risk management. Specifically, it is labour intensive to facilitate online co-creation or ethnography studies, to collect data, and to analyse it, in accordance with the researcher's industrial knowledge and experience. It requires teamwork. While the researcher was the only person capable to design and execute these two types of research, there was also not sufficient budge to hire other researchers. The second consideration is to manage risk and uncertainty. Online co-creation/focus groups or ethnography are new to Firm A. As one new approach – SM text-mining – was already adopted, to apply another new method could place Firm A's innovation effort at high risk. As Firm A is target at market success, the researcher took a step back and suggested to adopt one new method (SM text-mining) and one established method (offline and face-to-face focus groups) to discover customer needs. The following two sections present the details of the employments of the SM text-mining method and the offline focus groups approach. A summary of data collection methods and research stages can be find in Table 10 below.

<b>Research stages / Data collection methods</b>	<b>SM text-mining (the first round) (see Section 3.3.3[a]&amp;[b])</b>	<b>SM text-mining (the second round) (see Section 3.3.3[a]&amp;[c])</b>	<b>Face-to-face focus groups (the pilot study) (see Section 3.3.4[a])</b>	<b>Face-to-face focus groups (the main study) (see Section 3.3.4[b])</b>
<b>Research questions addressed</b>	Research question 2 and sub-questions	Research question 2 and sub-questions	Research question 1 and 2, with sub-questions	Research question 1 in the first half of each focus groups session; research question 2 and sub-questions in the second half of each session
<b>Visual based research (VBR) tools employed</b>	None	None	See Figure 17 in Section 3.3.4[a]	See Figure 19 in Section 3.3.4[b] for the tool used in the first half of each focus groups session; see Figure 21 in Section 3.3.4[b] for the tool used in the second half of each session
<b>Data to collect</b>	Keywords from customer reviews of nappy products on JD.com	Keywords, associated words, and contextual sentences from customer reviews of nappy products on Mumsnet.com and Amazon.co.uk	<ul style="list-style-type: none"> <li>• VBR tools completed by participants</li> <li>• The researcher's notes.</li> </ul>	<ul style="list-style-type: none"> <li>• Two sets of VBR tools completed by participants</li> <li>• Focus groups transcripts</li> <li>• Photos</li> <li>• The researcher's notes</li> </ul>

Table 10: Research stages and data collection methods summaries [source: created in this study]

### **3.3.3 SM Text-Mining Employment**

#### **3.3.3[a] SM Text Mining Employment Overview**

Two rounds of SM text-mining studies aiming at extracting Chinese young customer needs of diaper products from customer online product reviews were designed to be conducted. The fundamental means to detect the customer needs information is to select the most important keywords about the product features that were mentioned by customers in their online product reviews (Berezina, et al., 2016).

The researcher anticipated to test 2 different approaches of SM text-mining in two rounds of studies. The aims are mainly (1) to extract learnings of whether text-mining research can be used to discover customer needs that can inform product innovation and (2) to develop recommendations of how SM text-mining methods can be used for customer research in FEI.

According to literature reviews and the researcher's practical experience, the first method is adopted in both the academia and the industry by market or customer research professionals, while the other is developed and adopted mainly in the academia (Berezina, et al., 2016; Kehoe and Gee, 2012). Both methods relies on natural language processing (NLP) and machine learning (ML) technologies to identify keywords or phrases from an appointed pool of textual data to extract customer opinions towards a product, service or brand (Pang and Lee, 2008; Mostafa, 2013; Christensen, et al., 2017), like all the customer generated posts on one section of an online forum (He, et al., 2013). However, the first approach requests the input of a series of queries (like using Google search engine) to determine which words or phrases in the target textual data are relevant to the queries (Google, 2018; Berezina, et al., 2016). On the contrary, the second approach directly analyses the target textual data and identify which are the significant words or phrases within them (Kehoe and Gee, 2009; Kehoe and Gee, 2012). It means that, when employing the first method, scholars or practitioners normally need to predetermine certain categories or themes and use them to identify related keywords from target textual data pool. For example, in this study, key product features defined by the diaper brand need to be used as queries (see the next section for more details). In other words, merely keywords in the customer reviews that are relevant to the brand-defined product features can be collected. It can bring biases in the identification of customer needs, as what customers truly need might be completely different from the product developers' assumption, which cannot be detected by the first method (Griffin, 1996). The second method does not require the predetermined themes or categories, but using algorithm to identify most significant keywords directly from the textual product

reviews generated by customers. The researcher then needs to select the keywords that are related to the product features. It means that the second method will not introduce biases to the data collection.

As stated in the Introduction chapter, the study attracted the interest of a baby product brand (Firm A). It decided to support this research by providing market research data and support for text-mining and focus groups studies. The market research data assisted the researcher to determine sources of textual data. It was the only available information about which SM sites contain the biggest volume of up-to-date customer generated product information, which helped the researcher to improve the accountability of research data. Firm A also offered the researcher to collaborate with their SM research and customer research subcontractor to execute the text-mining data collection and to organise the focus groups studies. It allowed the researcher to conduct four rounds of studies and to collect rich data within the time and budget scope. The researcher collaborated with Firm A's SM research subcontractor to execute the first round of SM text-mining study, while partnered with 2 linguistics and natural language processing researchers to proceed the Round 2.

The following two sections demonstrate the design of each round of the text-mining studies. The demonstration is written from the customer research perspective. It does not introduce the details around the algorithm design and the NLP or ML working principles. It is because the focus of the study is around customer research activities in FEI as a social science research, instead of SM text-mining algorithm design as a computer science research.

### **3.3.3[b] The Design of the first Round of SM Text-Mining Study**

#### ***Textual data sources I.)***

The first aspect to determine when designing the first Round of SM text-mining study employment is from which SM platform the textual data should be collected. The target SM sites are determined based on two factors: (1) Which sites contain a large quantity of up-to-date product information generated by Chinese young baby product customers, and (2) from which sites the textual can be collected given the available text-mining technologies.

As the study has chosen the Chinese baby diaper product market to be the context, the researcher identified a series of target SM sites based on Firm A's market research data. The data demonstrated that parenting forums and E-commerce sites were the most

popular SM information sources among customers. It further suggested the following sites as the most used information sources by Chinese young parents:

- E-commerce sites: JD.com (JD.COM, 2017), YHD.com (YHD.COM, 2017), Amazon.cn (Amazon.cn, 2017), dangdang.com (dangdang.com, 2017), and Taobao.com (Taobao.com, 2017)
- Forums: 55BBS.com (55BBS, 2017), Yaolan.com (Yaolan.com, 2017), iyaya.com (iyaya.com, 2017), ci123.com (ci123.com, 2017), and babytree.com (Babytree.com, 2017)

Based on the negotiations with the text-mining service provider, the researcher selected JD.com as the data source. The text-mining service provider identified that the customer data on JD.com was accessible through its clearly define API service (JD.COM, 2014). They also confirmed that collecting data from JD.com was mostly likely to meet the time and budget frame. The research proposed to collect data not only from an e-commerce site like JD.com, but also from a parenting forum, as the customer generated information on the 2 types of SM platforms can be different. However, as the data access and collection were determined to be complex, the researcher and the text-mining service provider agreed that it cannot be fulfilled given the time and budget limitation.

### ***Text-mining queries***

A significant step of the study design is to predetermine a series of product characteristics to be used as text-mining queries. As there was not accessible existing data about the up-to-date customer needs of Chinese young diaper customers, the researcher requested Firm A to provide their diaper product features to form the queries. As the technical benefits (benefits that customers can acquire from using the products) of Firm A's products were highly established in the market, they were adopted as the text-mining queries.

The product technical benefits identified by Firm A included: absorbency, sense of touch, skin care, fastening, odour, breathability, appearance, leakage-proof, material, and sanitation, which were adopted as the initial queries for the text-mining service provider to extract data from JD.com. The plan was to use NLP and ML based text-mining program developed by the service provider to identify and collect keywords/phrases within the customer generated product reviews that were relevant to these product technical benefits. (see Section 4.3 for more details).



### ***Execution of data collection I***

Based on considerations of project needs, time and budget available, the researcher and the text-mining agency reached the agreement to collect customer product reviews that were created in February 2014 from JD.com. The predetermined agreement of the agencies responsibilities also included (1) to collect customer reviews of two different diaper products in Firm A's product line in the Chinese market separately, which targeted at two different customer segments; (2) to collect customer reviews of two equivalent products of the major competitor brand, so product performances of the two brands can be compared; (3) to provide cleaned data instead of raw data, as the researcher did not have a the capacity to process a great volume of textual data (cleaned data means keywords/key phrases extracted from all the collected customer reviews, which are identified as the most frequently appeared words or phrases that are relevant to the queries, apart from the function words like "the" in English); (4) to provide sentiment of each keyword, which indicate the positive, neutral or negative attitude of the customer when leaving the specific comment; (5) to deliver the results to the researcher within a week. During execution, due to the agency's lack of technical and project management capability, the data collection scope was narrowed to:

- (1) Customer reviews that were generated in February 2014 of two different diapers in Firm A's product line from JD.com. However, the data were downloaded into the same file. It means that the data were not segmented according to different customer profiles.
- (2) Cleaned data as keywords/key phrases extracted from all the collected customer reviews, which were identified as the most frequently appeared words or phrases that are relevant to the queries, apart from the function words like "the" in English. The keywords and phrases were populated into a spread sheets (See Chapter 4).
- (3) Delivered the results to the researcher within a week, which should include a summary of data volumes.

Besides the data downloaded from SM, the researcher also took notes about the execution of the text-mining study. The documentation focused on advantages and disadvantages of the methods and the research design. The researcher anticipated to compare these learnings with learnings gained in the focus groups sessions to compare these 2 methods (see Section 3.3.4 and 3.3.5).

### ***Research ethics I***

The researcher legally acquired the right to use the customer provided information through the text-mining service provider. In accordance with the terms and conditions (T&C) provided by JD.COM (JD.COM, 2014), the copyright of all contents published by

the customers belong to the sites. Any individuals offered consents for the sites to own or use their consciously or unconsciously provided information automatically when they accept the T&C during registration. Any individuals or organisations that intend to use these contents have the obligation to reach agreements with the SM site.

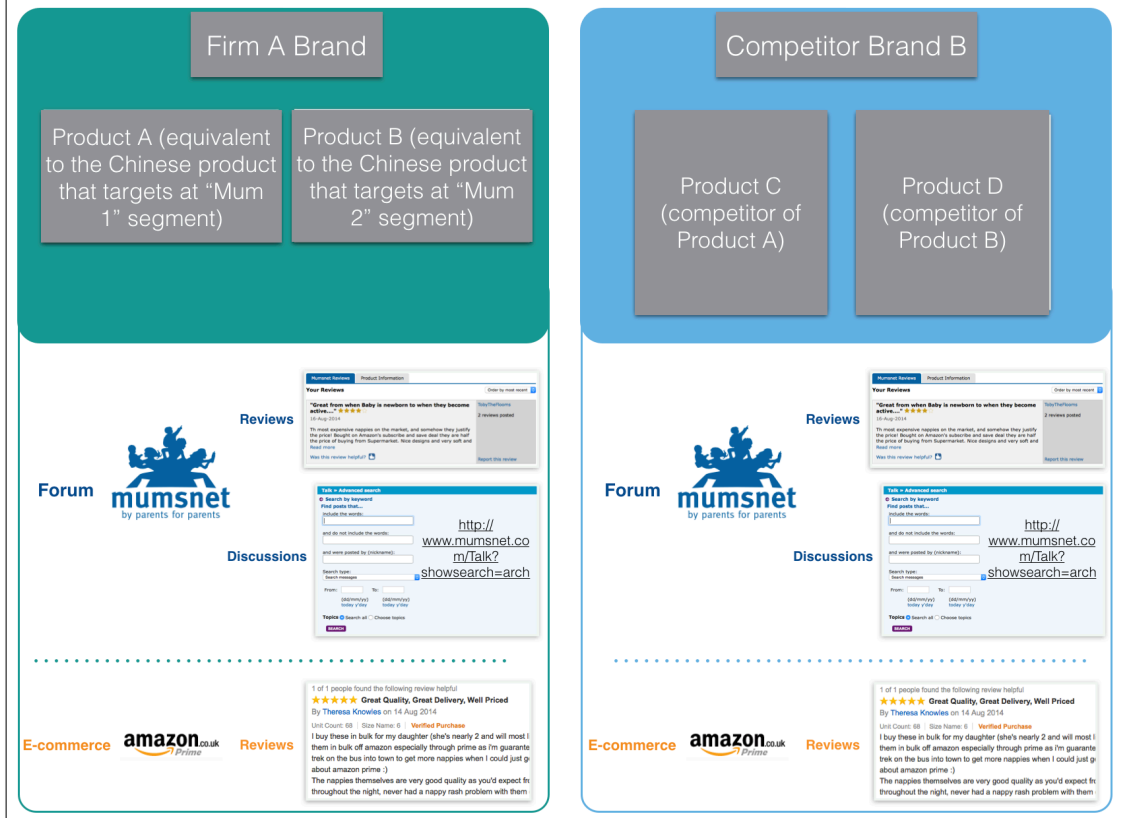
Another research ethics agreement was not to collect any personal information from JD.com, which aligned with Market Research Society (MRS)'s online research guideline (MRS, 2014). In other words, merely customer-generated product reviews were extracted from the SM site.

### **3.3.3[c] The Design of the second Round of SM Text-Mining Study**

#### ***Textual data sources II***

One British parenting forum and a British e-commerce site were selected to be the SM text-mining sources. The original plan was to adopt the same SM sites as the first round of study, which could potentially enable a fair comparison between the two text-mining technologies. However, the second method merely had the capability to crawl and analyse English language texts then. Therefore, the researcher determined to adopt 2 British sites that can be considered as the equivalent as the 2 Chinese SM platforms (Babytree.com and JD.com) at that time – Mumsnet.com (Mumsnet, 2014) as the parenting forum and Amazon.co.uk (Amazon.co.uk, 2014) as the e-commerce sites (See Figure 14). The 2 sites were among the most popular parenting related SM platforms in the UK, which also offered convenient and low-budget API services for data crawling (Alexa 2017a, 2017b).

## Data Resources



## Data Types

### A. Based on keywords

#### Keywords

- Most frequently repeated words about the selected product on the selected site compared with the wider web;
- Indicates **emerging topics** about the selected product on the selected page.

★ fit  
★ active  
★ stretchy  
★ leak

#### Collocates

- Words that appear around the selected keywords most frequently (the **associated words**);
- Show a **summary of context** of selected keywords that help us **to understand the emerging topics**.



#### Concordances

- Examples of **sentences that contains the selected keyword**;
- Show the context of chosen keywords that help us **to understand:1). the exact meanings of emerging topics; 2). the why of the emerging topics**;
- It includes the rating scores, which can further validate consumers' opinions.

★ leak  
2 We're now on size 4 and have at least 2 leaks a day. Not impressed.  
5 time use and days out. Only had one or two leaks when using them in almost 2 years. Brilliant!

Figure 14: Data collection scope of the second round of SM text-mining study (brand and product names were disguised) [source: created in this study]

### ***Execution data collection II***

Similar to the first round of SM text-mining study, the objectives of data collection of the second round were established by the researcher and the two collaborators to include: (1) the collection of customer reviews of two different diaper products in Firm A's product line in the UK market (that were equivalent to those in the Chinese market) separately, which targeted at two different customer segments; (2) the collection of customer reviews or discussions of two equivalent products of the major competitor brand, so product performances of the two brands can be compared; (3) the delivery of cleaned data instead of raw data (cleaned data means keywords/key phrases extracted from all the collected customer reviews, which are identified by the algorithm as the semantically most significant content); (4) the identification of sentiment of each keyword, which indicate the positive, neutral or negative attitude of the customer when leaving the specific comment; (5) the delivery of the results to the researcher within a week. However, these targets were altered based on learnings from the findings of the first round and the discussions with the two collaborators.

The fourth objective was deleted, as the two collaborators confirmed that the existing technology could not provide meaningful or accurate sentiments. Alternatively, the three researchers determined to collect sentences where any keywords/phrase locate, which could provide accurate contextual information and indicate sentiments. These sentences were defined as "concordances" (Kehoe and Gee, 2009; Kehoe and Gee, 2012).

Inspired by the analysis of the first round results, the researcher was also keen on testing collecting associated words/phrases of the keywords/key phrases through the algorithm. The analysis of the first round result involved creating clusters of the collected keywords, as it merely the keywords/key phrases could not directly provide indications of customer needs (see Chapter 4 for more details). However, the researcher could only rely on his/her own interpretation to form the clusters, as there was not evidences available. It could introduce biases to the clusters as the researcher's interpretation might not be representative of the customers' opinions. The text-mining technology adopted in the second round of study was capable to identify semantically relevant words of each keywords/key phrases based on the analysis of the context (the customer generated reviews) that the words located at and form the word clusters. The relevant words was named as "collocates". It means that the word clusters could be comprised of relevant words identified by the algorithm based on the analysis of customers' opinions. The issue of bias could be potentially eliminated.

Based on the consideration of time, budget, and learnings from the first round of the study, the scope of the data collection of the text-mining round two was determined to be (See Figure 14):

- (1) the collection of customer reviews of two different diaper products in Firm A's product line in the UK market (that were equivalent to those in the Chinese market) separately;
- (2) the collection of customer reviews or discussions of two equivalent products of the major competitor brand;
- (3) the delivery of cleaned data instead of raw data (cleaned data means keywords/key phrases extracted from all the collected customer reviews, which are identified by the algorithm as the semantically most significant content);
- (4) the collection of "concordances";
- (5) the collection of collocates; and
- (6) the delivery of the results to the researcher within a week, which should include a data collection summary indicating data volumes.

Besides the data downloaded from SM, the researcher also took notes about the execution of the text-mining study. The documentation focused on advantages and disadvantages of the methods and the research design. The researcher anticipated to compare these learnings with learnings gained in the focus groups sessions to compare these two methods (see Section 3.3.4 and 3.3.5).

### ***Research ethics II***

Like the first round of SM text-mining study, the second round adopted two actions to fulfill research ethics: (1) to acquire consents from the 2 identified SM platforms and (2) to only collect customer generated product reviews or discussions and avoid any customer personal information.

### **3.3.4 Use of focus groups**

Two rounds of focus groups that aim at (1) the exploration and description of Chinese customers' decision journey (CDJ) and (2) the discovery of Chinese customers' needs of diaper products were determined to be conducted. As it was the first academic study that endeavoured to fulfill these two targets, the researcher determined to execute a pilot study prior to the main study. Therefore, the pilot study was included mainly to test the research method and tools and indicate learnings for the main study design, rather than to yield findings of CDJ and customer needs (Kim, 2010; Sampson, 2004). On the other hand, the main study targets at providing robust findings around CDJ and customer needs, and add on learnings of the research approach and tools.

### 3.3.4[a] Pilot Focus Groups Study Employment

#### *Participants profiles*

Responding to the researcher's request, Firm A provided rigorous criteria of two customer groups that they targeted at. The criteria included both demographic and behavioural parameters. The researcher determined to adopt them as recruitment screening criteria and hired a market research agency for the recruitment.

Equal numbers of two segments of the target consumers of Firm A were involved in the pilot study. Two customer profiles - "Mum 1" (see Figure 15) and "Mum 2" (see Figure 16) – were defined to represent the two groups. Each segment was coded with a specific name in the internal documents of Firm A. For confidential considerations, "Mum 1" and "Mum 2" are adopted in the thesis to disguise the original names. Since childcare remains to be mainly women's responsibility in Chinese households (Xiao and Hong, 2010; Xiao and Cooke, 2012), the two segments were defined as "mothers" by Firm A. The characteristics of each group are presented in Figure 15 and 16 below.



Figure 15: Customer segment "Mum 1"'s key characteristics

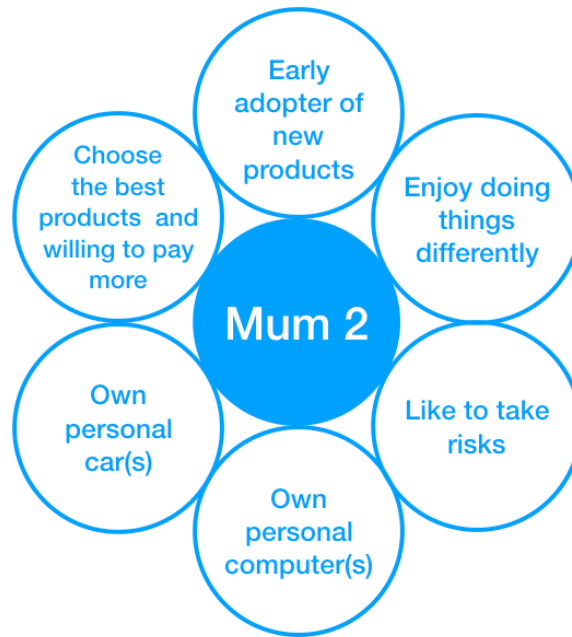


Figure 16: Customer segment “Mum 2”’s key characteristics

Each group included eighteen participants. It was because the researcher intended to organise three groups interview sessions (six participants per session) with each customer segment. According to the researcher’s practical experiences, a minimum of two focus groups sessions should be conducted with a customer segment to avoid biases. The one extra session can provide opportunities to discover more details and stories of patterns identified in the first two sessions. Therefore, the focus groups pilot study was comprised of six focus groups sessions.

#### ***Focus groups pilot study structure***

Each focus groups session was designed to last for two hours, which could allow group dynamics to flow and to induce in-depth discussions, whereas would not exhaust the moderator, the participants, and any observers. The researcher determined to adopt a visual research tool to facilitate the semi-structured conversations between the participants and the moderator. The idea was to hand out a printed copy of the tool to each participant and let them jot down initial responses after a brief introduction from the moderator. An interview was included after the completion of the research tool, aiming at extracting detailed responses including examples and stories of customers’ real-life experiences that were relevant to their initial responses.

Based on the researcher’s industrial experience, the application of properly designed research tools can increase the efficiency and structure of data collection, while the

follow-up semi-structured interview can preserve space for open exploration. The researcher anticipated to leverage this arrangement to achieve comprehensive, exploratory, and in-depth data collection. As academic research around visual facilitating tool used in design or customer research is rather rare, this study could also potentially provide significant new learnings especially to research questions [2c].

### ***The design of the visual based research tool***

The design of the visual based research (VBR) tool focused on facilitating the collection of customers' responses on (1) customers' perception of product technical benefits (key features) and (2) how customers consider and evaluate products. The first objective targeted at the identification customer needs of diaper products. By comparing the needs identified through the tool-aided focus groups and those discovered by SM text-mining, the study could indicate findings that respond to research questions [2a] and [2c] (see Section 3.1). The second objective focuses on extracting initial findings around CDJ through asking how customers identify product features and why, as well as through which information channels do they identify product features. The findings could provide responses to research question 1 (see Section 3.1).

To fulfil the objectives, the researcher determined 6 groups of questions for exploration: (1) What is the influence of [each technical benefit] on customers' selection of infant diaper product? Why? How does it influence customers' selection of products? [Question group (1) on Figure 17]

(2) What factors make customers believe in/not to believe [each technical benefit]? Why? How do they make customers believe in/not to believe in the technical benefit? [Question group (2) on Figure 17]

(3) How important is [each technical benefit] as a product feature for customers? Why? What else are important? [Question group (1) on Figure 17]

(4) How do customers identify [each technical benefit] or issues related to it? Why? [Question group (4) on Figure 17]

(5) When do customers identify [each technical benefit] or issues related to it? How do customers identify it under each scenario? [Question group (5) on Figure 17]

(6) Through which information channels do customers identify [each technical benefit]? How does it happen? Why? How important is [each channel]? [Question group (6) on Figure 17]

The researcher also adopted Firm A's existing knowledge of the products and the customers when designing the visual tool. The first piece of the adopted knowledge was



product technical benefits, which included absorbency, sense of touch, skin care, fastening, odour, breathability, appearance, leakage-proof, material and sanitation, which also informed the design of the first round of SM text-mining study (see Section 3.3.3[b]). All the question groups listed above were asked around each of the technical benefits. The second piece was comprised of the firm's current understanding of means and information channels that were adopted by customers to consider and select products. The means included visually, by smelling, by listening (to babies and other people), by touching, and according to costs, while the information channels were on baby, on nappy, package, through friends, online, and TV. The last existing knowledge area adopted demonstrated 3 scenarios when customers identify product technical benefits, which were when considering what products to buy, when buying the selected products, and when using the products. The last two existing knowledge areas were adopted as stimuli to assist the probing around the question groups (4), (5), and (6)

For the third and sixth question groups, a Likert Scale (1 to 5 - 1=not important, 3=neither unimportant nor important, 5=very important) was included in the tool to aid customers in providing answers. The aim was not to collect quantitative data for statistical analysis, but to use the responses as conversation starters to explore customers' perceptions and the underlying rationale.

Through the consolidation of the above considerations, a set of tools was developed. Each page of the tool addressed one product technical benefit. The same structure was applied to every page. (See the page that addresses "breathability" in Figure 17. The rest of the pages are included in the Appendix. Figure 18 exhibits an example page of the tool filled in by a focus groups participant)












ATTITUDES AND PERCEPTIONS Of TECHNICAL BENEFITS – “BREATHABILITY”					
IMPORTANCE		(4) HOW DO YOU RECOGNISE BREATHABILITY?	(5) WHEN DO YOU RECOGNISE ISSUES WITH BREATHABILITY?	(6) WHERE DO YOU RECOGNISE BREATHABILITY? HOW IMPORTANT IS TO RECOGNISE BREATHABILITY IN THE FOLLOWING? 1= very important; 3= neither important nor unimportant; 5= being least important	
(1) What is the influence of <b>BREATHABILITY</b> on your selection of product?	WHY?  HOW?	A HOW?  VISUALLY WHY?  B HOW?  SMELL WHY?  C HOW?  LISTENING TO BABY/OTHER PEOPLE WHY?  D HOW?  TOUCH WHY?  E HOW?  COST WHY?	A WHEN CONSIDERING THE PRODUCT TO BUY HOW?  B WHEN BUYING YOUR SELECTED PRODUCT HOW?  C WHEN USING THE PRODUCT CHOSEN HOW?	A WHERE?  WHY? ON BABY 1-2-3-4-5 B WHERE?  WHY? ON NAPPY 1-2-3-4-5 C WHERE?  WHY? PACKAGE 1-2-3-4-5 D WHERE?  WHY? WITH FRIENDS 1-2-3-4-5 E WHERE?  WHY? ONLINE 1-2-3-4-5 F WHERE?  WHY? TV 1-2-3-4-5	
(2) What makes you believe the benefit of <b>BREATHABILITY</b> ?	WHAT?  HOW?				
(3) How important is <b>BREATHABILITY</b> as a benefit?	RANKING 1= not important; 3= not important nor unimportant; 5= very important  1-2-3-4-5  WHY?				

Figure 17: The VBR tool used in the focus groups pilot study (the page that addresses the technical benefit “breathability”) [source: created in this study]

态度与看法  
产品性能：气味

1.2.4.56.3

问题	您是如何认识“气味”的?	您会考虑购买哪种“气味”的产品?	您是否通过某种方式认识“气味”?
1 你觉得“气味”对您选择该产品有什么影响?	1. 如何? 视觉 为什么? 视觉 2. 如何? 嗅觉 为什么? 嗅觉 3. 如何? 触觉 为什么? 触觉 4. 如何? 味觉 为什么? 味觉 5. 如何? 听觉 为什么? 听觉	1. 在购买您所选的产品时 如何? 在购买您所选的产品时 2. 在购买您所选的产品时 如何? 在购买您所选的产品时 3. 在购买您所选的产品时 如何? 在购买您所选的产品时	1. 在哪里? 在哪里? 为什么? 在哪里? 2. 在哪里? 在哪里? 为什么? 在哪里? 3. 在哪里? 在哪里? 为什么? 在哪里? 4. 在哪里? 在哪里? 为什么? 在哪里? 5. 在哪里? 在哪里? 为什么? 在哪里?
2 什么让您相信产品的“气味”性能? 用后没有味道才足让相信。	1. 如何? 视觉 为什么? 视觉 2. 如何? 嗅觉 为什么? 嗅觉 3. 如何? 触觉 为什么? 触觉 4. 如何? 味觉 为什么? 味觉 5. 如何? 听觉 为什么? 听觉	1. 在购买您所选的产品时 如何? 在购买您所选的产品时 2. 在购买您所选的产品时 如何? 在购买您所选的产品时 3. 在购买您所选的产品时 如何? 在购买您所选的产品时	1. 在哪里? 在哪里? 为什么? 在哪里? 2. 在哪里? 在哪里? 为什么? 在哪里? 3. 在哪里? 在哪里? 为什么? 在哪里? 4. 在哪里? 在哪里? 为什么? 在哪里? 5. 在哪里? 在哪里? 为什么? 在哪里?
3 作为一种产品性能，“气味”对您来说有多重要?	1. 如何? 视觉 为什么? 视觉 2. 如何? 嗅觉 为什么? 嗅觉 3. 如何? 触觉 为什么? 触觉 4. 如何? 味觉 为什么? 味觉 5. 如何? 听觉 为什么? 听觉	1. 在购买您所选的产品时 如何? 在购买您所选的产品时 2. 在购买您所选的产品时 如何? 在购买您所选的产品时 3. 在购买您所选的产品时 如何? 在购买您所选的产品时	1. 在哪里? 在哪里? 为什么? 在哪里? 2. 在哪里? 在哪里? 为什么? 在哪里? 3. 在哪里? 在哪里? 为什么? 在哪里? 4. 在哪里? 在哪里? 为什么? 在哪里? 5. 在哪里? 在哪里? 为什么? 在哪里?

Figure 18: An example page of the VBR tool that was filled in by a participant in the pilot focus groups study (the page that addresses the technical benefit “odour”) [source: created in this study]

### ***Data collection execution***

Four types of data were determined to be collected from the pilot focus groups study, including (1) VBR tools completed by the participants, (2) focus groups transcripts (see Appendices), (3) focus groups photos, and (4) notes taken by the researcher during the focus groups sessions. The aims of collecting various types of data generated from different perspectives were to increase the potential richness of findings, and to reduce biases (Flick, 2004; Robson and McCartan, 2016; Creswell, 2013).

As the researcher wanted to prioritise notetaking, while both Firm A and the researcher would like to ensure the quality of the focus groups sessions, a professional moderators was invited to conduct the interviews. The researcher prepared a facilitation guide, while briefed the moderator in advance via conference calls (as the budget did not allow the UK-based researcher to travel to Beijing, China before the focus groups sessions.)

### ***Research ethics***

To protect privacy of the focus groups participants and the confidentiality of this study and Firm A NPD efforts, a non-disclosure agreement was signed by each participant. Through the signature of the agreement, the participants agreed to keep any information exchanged during the interviews private, while the researcher and Firm A agreed to merely use the collected information for the study and for the NPD project. The researcher also agreed not to disclose any personal information like real names, ages and photos including the participants' facial figures in any publications.

## **3.3.4[b] Focus Groups Main Study Employment**

### ***Learning from the pilot study***

The design of the focus groups main study employment was not only informed by research objectives and questions, but also learnings from the pilot study (Kim, 2010; Sampson, 2004).

The results of the pilot study did not suggest changes of the customer participants profiles and research ethics practices, whereas demanded changes in research tools, interview questions, and interview moderations. Simplification and increased focus on SM as customers' product information channel needed to be introduced to the research tools and interview questions, while a replacement of moderator was necessary. The following sections present:

- Focus groups main study structure
- The design of the VBR tools

- Data collection execution

As the focus groups participants profiles and the research ethics remained the same as the pilot study, it is not necessary to introduce them repeatedly. Please see the presentations of these two aspects of the focus groups employment in Section 3.3.4[a].

### ***Focus groups main study structure***

As the pilot study, each focus groups session was designed to last for two hours. To increase clarity, each focus groups session was divided into two parts that the probes about CDJ (in response to research question (1) and customer needs of diaper products (in response to research question (2) respectively. Each part lasted for one hour.

Based on learnings from the pilot study, two visual VBR tools were developed and applied respectively in each part of a focus groups session (see the next two sections for details of the research tools). At the beginning of each part, a printed copy of the associated tool to each participant and let them fill in initial responses after a brief introduction from the moderator. The completion of each tool was followed by a semi-structured conversation between the moderator and the participants to dive deeply into customers' experiences, opinions, and rationale related to their initial answers.

### ***Defining research topics and VBR tools to explore the SM-driven CDJ of Chinese diaper customers (the first part of a focus groups session)***

To explore and describe CDJ (based on existing findings of SM-driven CDJ, see Chapter 2), a series of topics were identified to be investigated (see Table 11). The list of topics also served as the focus groups guide the researcher adopted to assist moderation. The researcher identified a series of topics to be included in the VBR tools as brief answers can be collected about them (see the "bold" items in Table 11). Other topics need more in-depth probing, hence were included in the conversation following the tool filling exercise.

Existing knowledge of Main activities in SM- driven CDJ	Topics to explore in focus groups
Trigger (Edelman, 2010)	<ul style="list-style-type: none"> <li>• What trigger customers to start looking for diaper products?</li> <li>• When/in which situations do they start?</li> </ul>
Product information search and evaluation (Edelman, 2010; Blackwell, et al., 2001)	<ul style="list-style-type: none"> <li>• <b>What are the sources of product information that are adopted by young Chinese diaper customers?</b></li> <li>• Why do they use these sources?</li> <li>• <b>How do they use these sources (What information do they look for? How often do they use it?) and why?</b></li> <li>• What do they like or dislike about these sources and why?</li> <li>• What is the role of SM?</li> <li>• What is the role of peer product reviews on SM?</li> <li>• When do they start skipping the elaborated product information acquisition and evaluation process, as they decide to stick to certain product(s)?</li> </ul>
Buy/decide on what products to purchase (Edelman, 2010; Blackwell, et al., 2001)	<ul style="list-style-type: none"> <li>• When do they make the final decision of what products to buy?</li> <li>• What do they do when purchasing the products?</li> <li>• How do they purchase?</li> </ul>
Post-purchase activities (Edelman, 2010; Blackwell, et al., 2001)	<ul style="list-style-type: none"> <li>• What do they do after purchase?</li> <li>• <b>Do they contribute product reviews on SM? Why? Through which SM sites and how often?</b></li> </ul>

Table 11: Questions around SM-driven CDJ to be explored in the focus groups sessions [source: created in this study]

The design of the VBR tool was guided by two principles. First, the tool should facilitate the exploration and description of Chinese young diaper customers' CDJ and SM's influences on it to support the answering of the first research question. Besides, the tool

should also be designed in a digitisable style that could be potentially adopted in online co-creation customer research, which could provide responses to the research question [2c].

To fulfil the first principle, the researcher determined to leverage existing knowledge about Chinese young diaper customers' CDJ. Based on the pilot study findings and the researcher's discussion with Firm A's product development and marketing team, the main study should focus on SM channels as customers' information sources, instead of also including channels like TV or product packaging as in the first round. It was because this study and Firm A's interest were on SM, and it was clearly that SM had become an imperative product learning channel for the customers. More specifically, parenting forums and e-commerce sites were the 2 leading types of SM platforms. Another decision made was to include "recommendations" and "experiments" as customers' key means to know about products. Both the pilot study and Firm A's market research data supported this decision, while also indicated that these 2 approaches were usually adopted through SM. Specific sources under each of the 4 channels include:

- **Forums:** 55BBS.com (55BBS, 2017), Yaolan.com (Yaolan.com, 2017), iyaya.com (iyaya.com, 2017), ci123.com (ci123.com, 2017), and babytree.com (Babytree.com, 2017)
- **E-commerce sites:** JD.com (JD.COM, 2017), YHD.com (YHD.COM, 2017), Amazon.cn (Amazon.cn, 2017), dangdang.com (dangdang.com, 2017), and Taobao.com (Taobao.com, 2017)
- **Recommendations:** mother, mother-in-law, friends, someone online, neighbours
- **Experiments:** experiments at home, experiments in store

Significant product features that customers look at were also indicated by the pilot study and Firm A's market data:

- **Product technical benefits:** absorbency, breathability, odour (packaging), odour (during usage), sense of touch
- **Product (emotional) attributes:** surface finish, material quality, aesthetics, design features
- **Product information:** cost performance, price, product ratings (on SM), recommendations (from peers on SM), positive or negative product reviews (on SM), product benefits videos (on SM), advice (from friends and family).

The pilot study suggested that customers did not only look at product technical benefits, but also paid attention to emotional attributes, and cost performances of the products (see Figure 44 in Chapter 4). Additionally, literature reviews suggested that online product ratings and reviews were highly adopted by customers as references for product selection. Furthermore, Firm A's marketing efforts believes that videos that display product technical benefits were highly welcomed by customers. These existing knowledge were embedded in the design of the VBR tool (see the tool in Figure 19, and an example of participant filled tool in Figure 20). Finally for meeting the second principle, the researcher took several online data collection tools like "GoFormz" as references (GUAY, 2018). The tool was designed to merely required "ticking" and brief writing on paper, which were equivalent to "clicking" and typing on screen (see Figure 19 and Figure 20).

**FORUMS**

55BBS.com ☐ Yoclan ☐  
 YY网 ☐ 宝宝树 ☐  
 Other ☐

**TECHNICAL BENEFITS**

	AL	ST	N
ABSORBENCY			
BREATHABILITY			
ODOUR PACKAGING			
ODOUR DURING USAGE			
SENSE OF TOUCH			

**PRODUCT ATTRIBUTES**

	AL	ST	N
SURFACE FINISH			
MATERIAL QUALITY			
AESTHETICS			
DESIGN FEATURES			

**PRODUCT INFO**

	AL	ST	N
COST PERFORMANCE			
PRICE			
PRODUCT RATINGS			
RECOMMENDATIONS			
POSITIVE REVIEWS			
NEGATIVE REVIEWS			
BENEFIT VIDEOS			

**FREQUENCY**

	DAILY	WEEKLY	MONTHLY
FREQUENCY OF VISIT			
FREQUENCY POSTING			

**E-COMMERCE**

JD.com ☐ 1915 ☐  
 amazon.cn ☐ 当当网 ☐  
 淘宝网 ☐ Other ☐

**TECHNICAL BENEFITS**

	AL	ST	N
ABSORBENCY			
BREATHABILITY			
ODOUR PACKAGING			
ODOUR DURING USAGE			
SENSE OF TOUCH			

**PRODUCT ATTRIBUTES**

	AL	ST	N
SURFACE FINISH			
MATERIAL QUALITY			
AESTHETICS			
DESIGN FEATURES			

**PRODUCT INFO**

	AL	ST	N
COST PERFORMANCE			
PRICE			
PRODUCT RATINGS			
POSITIVE REVIEWS			
NEGATIVE REVIEWS			
BENEFIT VIDEOS			

**FREQUENCY**

	DAILY	WEEKLY	MONTHLY
FREQUENCY OF VISIT			
FREQUENCY POSTING			

**RECOMMENDATIONS**

MOM ☐ MOTHER IN LAW ☐  
 FRIEND ☐ SOMEONE ONLINE ☐  
 OTHER ☐ NEIGHBOUR ☐

**TECHNICAL BENEFITS**

	AL	ST	N
ABSORBENCY			
BREATHABILITY			
ODOUR PACKAGING			
ODOUR DURING USAGE			
SENSE OF TOUCH			

**PRODUCT ATTRIBUTES**

	AL	ST	N
SURFACE FINISH			
MATERIAL QUALITY			
AESTHETICS			
DESIGN FEATURES			

**PRODUCT INFO**

	AL	ST	N
COST PERFORMANCE			
PRICE			
ADVICE			
OTHERS			

**FREQUENCY**

	DAILY	WEEKLY	MONTHLY
FREQUENCY OF SEEKING RECOMMENDATIONS			

**EXPERIMENTING & TESTING**

MUM AT HOME ☐ MUM IN STORE ☐

**TECHNICAL BENEFITS**

	AL	ST	N
ABSORBENCY			
BREATHABILITY			
ODOUR PACKAGING			
ODOUR DURING USAGE			
SENSE OF TOUCH			

**PRODUCT ATTRIBUTES**

	AL	ST	N
SURFACE FINISH			
MATERIAL QUALITY			
AESTHETICS			
DESIGN FEATURES			

**WHEN DO YOU DO THE EXPERIMENTS OR TESTS?**

	AL	ST	N
WHEN CHOOSING PRODUCT			
WHEN PURCHASING PRODUCT			
WHEN USING PRODUCT			

Figure 19: Focus groups main study VBR tool for exploring CDJ (AL=always, ST=sometimes, N=never) [source: created in this study]

The VBR tool is a structured form used for data collection. It consists of four main sections, each with a title and a set of checkboxes and frequency scales. The sections are: 论坛 (Forum), 电子商务/网络购物 (E-commerce/Online Shopping), 推荐 (Recommendation), and 实验与测试 (Experiment and Testing). Each section contains multiple rows of checkboxes and frequency scales (AL, ST, N). The participant has filled in the '论坛' and '电子商务/网络购物' columns. Below the grid, there are four blue sticky notes with the numbers 4, 1, 3, and 2, corresponding to the columns.

Figure 20: An example of the VBR tool filled in by one participant in the focus groups main study [source: created in this study]

In the focus groups sessions, each participant received one paper copy of the tool and were asked to fill it in one stripe (each stripe focuses on each of the four information channels) at a time. They were directed to select which specific information sources of each information channel (e.g. which of 55BBS.com, Yaolan.com, iyaya.com, ci123.com, and babytree.com of forums) that they adopted to acquire product information to aid their product selection. If “other” was selected, they were also requested to specify. Following choosing the specific sources, they moved on to choose what “technical benefits”, “product attributes” and “product information” they look at when adopting each channel, and indicate frequencies between “always (AL)” “sometimes (ST)” and “never (N)”. For “forum” and “e-commerce” channels, they finished responding to the tool by selecting how frequently they seek the information versus how frequently they give the information. As literature suggested that customers tend to acquire product information from SM more frequently than contributing information, the researcher would like to validate this understanding with the Chinese young diaper customers and to probe about what triggered them to leave reviews in the follow-up conversation (Preece and Shneiderman, 2009; Heinonen, 2011). For “recommendations”, they were requested to choose the frequency of recommendation seeking. For “experimenting & testing”, they were asked



to answer if they do experiments when choosing, purchasing or using the products and suggest the frequency of each scenario. Once the participants finished answering all 4 stripes, the moderator/researcher directed them to rank the four channels according to their importance. The aim of collecting responses of the tool was not to statistically define behaviours or activities in the CDJ, but to collect initial answers as conversation starters for deep probes of customers behaviour, attitudes and rationale of their CDJs.

***Defining research topics and VBR tools to explore customer needs (the second part of a focus groups session)***

To identify young Chinese diaper customers' needs of diaper products, a series of topics were identified to be explored, which also constitute the focus groups guide that the researcher adopted for moderation (see Table 12 below)

No.	Questions
1	How do they think of the product characteristics (technical benefits and emotional product attributes)?
2	Do the existing products' performances articulate them well?
3	Which parts of each existing product give them this impression? How and why?
4	How do the product characteristics relate to their children or their activities and feelings? Why?
5	Which product characteristic is the most important? Why?

Table 12: Questions around customer needs of diaper products to be explored in the focus groups main study sessions [source: created in this study]

It is noteworthy that the ultimate aim of exploring customer needs in this study was not to inform product innovation, but to extract learnings in relation to how businesses could leverage SM to conduct customer research for FEI. As defined by the study objectives and research questions, the aim was partially fulfilled by comparing the newly emerged SM text-mining method and the traditional customer research method – focus groups. Therefore, the researcher determined to design the second part of the focus groups in the way that its results could be easily compared with the results from the SM text-mining studies. The SM text-mining studies targeted at identifying customer needs from product reviews that they left on SM sites, which meant that they were designed to extract customer needs information from their opinions of current products. The focus groups

sessions adopted this settings to start from asking customers' opinions of existing products.

More specifically, three product samples were handed out to each participants, including Firm A's product that targeted at the segment that the participant belong to and two competitor products of another two brands (Brand B and C). As two different customer segments ("Mum 1" and "Mum 2") were invited to the studies, two sets of diaper products (each include three products from three competitor brands) were prepared. The moderator/researcher first directed the participants to think of how the products articulate the product technical benefits and emotional attributes while examining the product samples (see the previous section or Figure 21). They were requested to check the products as how they normally did it in the daily life, as the researcher anticipates that their actions could reflect their needs (see Section 4.2.1[e] for relevant findings). To document their opinions, they were asked to note down their thoughts in the visual tool (see Figure 21), which was followed by a conversation with the moderator/researcher.

Like the first part of the focus groups, a visual tool was developed and adopted in the second part to initiate the conversations (See Figure 21 and Figure 22). The left part of the tool included the front, back and interior dimensions of a diaper, while a table including the product characteristics was display on the right side. Each technical benefit or product attribute was coded with round or star shaped multiple-colour stickers. A set of stickers including these shapes and colours were handed out to each participant. They were asked to mark the area on a diaper where they think articulated "breathability" well or poorly, for example, using the yellow and start-shaped sticker, and note down relevant thoughts in the grid beside "breathability". Each participant received a set of a three-page tool. Each page addressed one product from one brand that targeted at the segment they belong to. Once the customers assessed all three samples and finished filled in all three pages of the visual tool, the moderator/researcher initiated a conversation around the product characteristic one at a time following the focus groups guide. The researcher also adopted the tool as a template to take structured notes, and to present summaries of the analysis results (see Chapter 4).

Like the VBR tool designed for the first part of a focus groups session, the tool was also developed in a digitisable format. In accordance with the researchers' investigation of existing online customer or market research platforms, it was feasible to incorporate "marking on an image" and "text entering" functions in a digital tool. The "marking" function could translate the "marking with stickers" activity into the digital space, while

“text entering” could allow research participants to provide answers in the table. Some existing platform also enabled “heat mapping” function, which could analyse and display the concentration levels of markings on a given image.



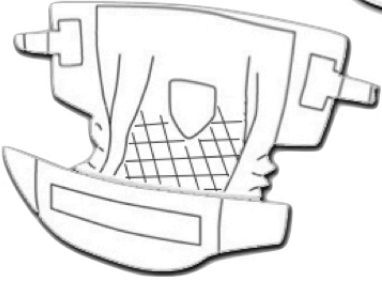








Technical Benefit Recognition Template					
Consumer Group:		Consumer Name:			
BRAND	Logo of Firm A brand - product targeted at "Mum 1"	TECHNICAL BENEFITS	HOW DOES THE PRODUCT ARTICULATE THIS TECHNICAL BENEFIT?	PRODUCT ATTRIBUTES	HOW DOES THE PRODUCT ARTICULATE THIS PRODUCT ATTRIBUTE?
<div>FRONT</div>  <div>BACK</div>  <div>INTERIOR</div> 		 Breathability		 Surface finish	
		 Sense of touch		 Material quality	
		 Absorbency		 Aesthetics	
		 Odour		 Design features	

Figure 21: A sample page of focus groups VBR tool for exploring customer needs of diaper products used in the main study (addressing the product that targeted at “Mum 1” from Firm A brand) [created in this study]

技术性能

消费者组别: 消费者姓名: **2.3 C**

品牌 **Brand C - product targeted at "Mum2" customers**

正面	背面	内部	技术性能	你是如何意识到这项技术性能的?	产品特质	你是如何意识到这项产品特质的?
			透气 ★	不是很透气 有点厚 没有透气孔	表面处理 ●	没有很显显示
			触感 ★	不舒服 有点硬的 感觉 会扎孩子的大腿 部	材料质量 ●	一般, 有点硬 很不好, 大腿 部会感觉有点扎
			吸水 ★	良好, 有吸水孔	美感 ●	一般, 没有很喜 欢的原因, 而且 有点短
			气味 ★	无气味	设计特点 ●	腰边有点短 不会粘上宝宝裤而 不粘了 贴宝宝背部, 不会 因摩擦而不舒服 没有新设计

Figure 22: A sample page of participant-filled focus groups VBR tool used in the main study (addressing the product that targeted at “Mum 2” from Brand C) [source: created in this study] (see all pages in the Appendices)

### Data collection execution

Like the plan of the pilot study, four types of data were determined to be collected from the pilot focus groups study, including (1) VBR tools completed by the participants, (2) focus groups transcripts (an example page is presented in Figure 36 in Chapter 4), (3) focus groups photos, and (4) notes taken by the researcher during the focus groups sessions. The aims of collecting various types of data generated from different perspectives were to increase the potential richness of findings, and to reduce biases (Flick, 2004; Robson and McCartan, 2016 ; Creswell, 2013). The data collection was segmented in accordance with the two customer profiles (“Mum 1” and “Mum 2”), as differences between the two customer profiles were anticipated. The researcher planned to analyse the two segments of data individually and to compare between them (see 3.3.6).

It is noteworthy that the researcher did not only take notes about customer needs, but also documented observations about the execution of the focus groups sessions and usage of the tools. It was because the ultimate aim of conducting the focus groups in this

study was to extract learnings about the impact of SM-driven CDJ on customer research through the comparison between SM text-mining and focus groups methods.

The researcher decided to play the moderator role in the focus groups of the main study. Firm A also highly supported this arrangement. It was because the hired moderator failed to explain the research tools to the participants, facilitate the customers to fill in the tools, and guide the conversations in the pilot study. Another reason was that the research tools and the interview questions were developed by the researcher, who would be most clear about what to get out from the application of them.

### **3.3.5 Data Analysis – the categorising strategy**

A categorising and constant comparison strategy was adopted for data analysis in this study (Maxwell, 2008; Onwuegbuzie, et al., 2009). It allowed data across the SM text-mining studies and focus groups studies to be compared and provide responses to the research questions.

The data analysis was comprised of four major steps. First, the researcher divided all data into those targeted at answering the first and the second research questions respectively. In general, the analysis of data from the focus groups pilot study and the first part of the focus groups main study provided findings for the first research questions, while the analysis of data from SM text-mining studies, the focus groups pilot study and the second part of the focus groups main study answered the second research question and its sub-questions. The reason why the data from the pilot focus groups was not differentiated as the main study data was that the collection of the data was not separated. It was a learning that inspired the design of the employment of the main study, which enabled the data collection and analysis to be clearer. All the data from the focus groups pilot study and main study data were also separated according the two participants segments. At the end of this step, the data were grouped into separate units.

The second step was to conduct line-to-line reading of data and open coding of each unit of data that resulted in an initial group of codes (Emerson, et al., 2011; Onwuegbuzie, et al., 2009) (see Figure 23 and 24 for examples). The whole body of each data unit was divided into small chunks and a code was assigned to each chunk (Onwuegbuzie, et al., 2009).

The next step was to categorise the codes within each unit of data and to compare the categories across all units that addressed the same research question. Codes were grouped into substantive categories that were derived directly from the data, and organisational categories that were defined from the literature (Maxwell, 2008; Onwuegbuzie, et al., 2009). This strategy enabled data analysis to be built on existing knowledge, while also allowed new themes to emerge especially in the nascent field of research (Miles and Huberman, 1994; Maxwell, 2008). Relevant evidences were re-distributed and grouped into different categories, whereas the irrelevant data were stored aside for potential future revisits. In other words, the data were reduced and abstracted, which prevents information overload while allows meanings to emerge (Miles and Huberman, 1994; Robson and McCartan, 2016). At the end of this step, each category was also assigned with a theme that articulate what was it about. The discussions of these themes and the comparisons between themes of different data units but addressed the same research question constituted the findings of the study (see Chapter 4). A noteworthy mindset of the coding and categorisation activities was that neither of them followed a linear process. An iterative coding and classification process was implemented, which either further broke down the developed themes for more refined ones or combined/subsumed different themes to allow more purified themes to emerge (Miles and Huberman, 1994).

In the final step, prior literature findings, which can be viewed as existing themes, were introduced to examine the empirical themes developed in the last step (Miles and Huberman, 1994; Robson and McCartan, 2016). During this step, the empirical codes were against the theoretical themes. The aim was to define common patterns, rival patterns, connected themes or irrelevant information (Miles and Huberman, 1994; Robson and McCartan, 2016). The irrelevant data identified through the previous step were also reassessed. Maps and tables were adopted to display patterns and links among the themes, which enhanced the sense making of the data. The results of this step placed this study into the context of broad academic studies, which also contributed to the discussions of research findings of this study (Kamler and Thomson, 2014) (See Chapter 5).

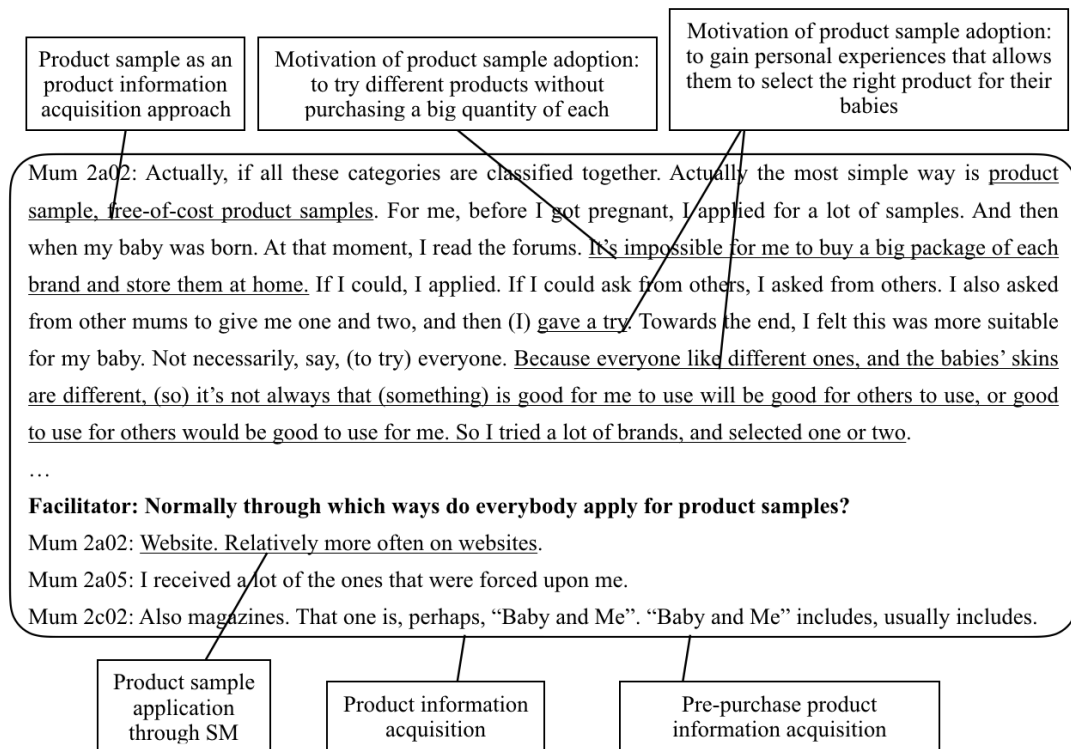


Figure 23: An example of the line-to-line data reading and open coding of focus groups transcripts [source: created in this study]

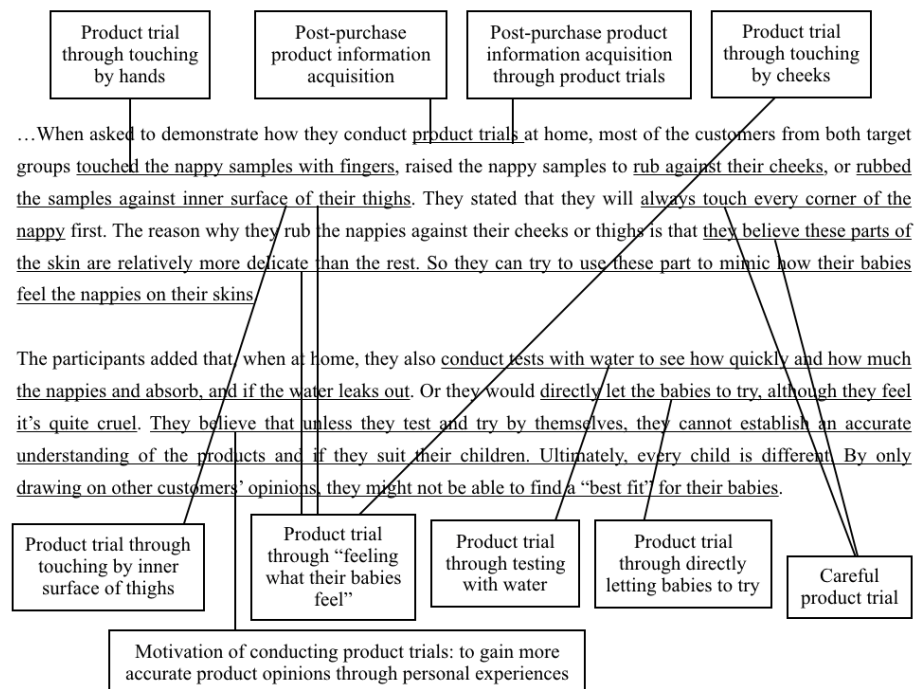


Figure 24: An example of the line-to-line data reading and open coding of the researcher's notes [source: created in this study]

### **3.3.6 Limitations of the research**

It is the researcher's responsibility to report limitations of the research, which establishes the right level of expectations of any potential audiences (Price and Murnan, 2004). It can also help increase the validity of future research by providing adequate considerations. The limitations of this study mainly originated from two sources: limitations of available resources, and intrinsic limitations of the focus groups method.

#### **3.3.6[a] Limitations of resources**

As this study did not receive any public or university provided funds, the research was responsible to seek supports. Fortunately, the study and researchers' experience attracted Firm A's sponsorship. However, because the researcher needed to ensure the independence of the study from the sponsor's commercial interest, the sponsorship issued was limited. It was also necessary for the researcher and Firm A to agree on a data collection and analysis time frame.

As time was limited, a market research partner that has established collaboration relationship with Firm A was selected to conduct the first round of SM text-mining data collection, which also offered reasonable price. From the researcher's industrial experience, the market research service providers in China tend to overpromise on their capabilities. Therefore, the researcher proactively communicated with the chosen partner and provided clear instructions prior to the execution of the data collection, while closely followed up the entire study. Despite all the efforts, the partner did not fulfill all the requirement stated in the agreement due to capability limitation. A learning was that a time buffer of one week could have been negotiated with Firm A for a pilot testing of the partner, which could provide evidences for the researcher and Firm A to agree on increase of budget to collaborate more capable institutions or individuals.

After the first round of SM text-mining, the researcher carefully analysed the collected data and notes taken by the researcher to document learnings of the study. As the most significant aim the SM text-mining study was to extract learnings about if it could be used to conduct customer research in FEI to inform new product ideation, the analysis provided adequate findings (see Chapter 4), despite the discounted data collection accomplishment. The researcher also proactively embedded the learnings in the design and preparation of the proposed the second round of text-mining study.



Besides, the available sponsorship also restricted the second round of the text-mining study. The text-mining technology that the researcher was keen on testing did not incorporate Chinese language package, hence the data collection could not be conducted on Chinese SM sites. Although the researcher found some open-sourced coding packages, the partnered researchers for the second round of text-mining determined that it was not viable to adopt those packages. It would have involved heavy workload to try to adopt those packages, which would have implications on the budget. As in the first round of text-mining study, the researcher diligently and seriously analysed the collected data and notes of learnings, which provided valuable findings (see Chapter 4).

The third limitation originated from both the lack of resource and existing knowledge. There was not established academic findings about Chinese diaper customers' SM media usage behaviour and product needs. Time and budget also did not allow the researcher to conduct a comprehensive exploratory study to obtain findings. Therefore, the workaround was to adopt the existing market research information from Firm A. Although the information was not derived from academic study, they were sufficiently valid to support a market leading brand to make strategic business decisions. The researcher kept this limitation in mind and adopted the data in a critical way. For example, when using the existing information of product characteristics (technical benefits and product features) to stimulate customers to respond about their needs, the research always prompted them to think about alternatives. The researcher also always requested the participants to explain the rationale behind their answers, which helped to reduce the possibility for the customers to be led by the stimuli (Portugal, 2013). The findings from this study also proved the validity of the adoption of these market research data. It facilitated the discovery of findings without restricting it, as the true answers of target customers' SM usage with details, and true answers of customer needs including a significant alternative of the existing product characteristics were identified.

### **3.3.6[b] Intrinsic limitations of the focus groups method**

The first limitation that is intrinsic to the focus groups methods was the dependency on the moderator's capability (Smithson, 2000). Despite the clear facilitation guide provided by the researcher and the researchers' constant feedbacks, the moderator of the focus groups pilot study failed to facilitate the participants to provide sufficient responses. As main aim of the pilot study was to test the focus group design and execution instead of to identify customer needs, the researcher took notes of learnings and refined the design

of the study employment of the main study. The amendments include to replace the moderator with the researcher and to prepare for the moderation carefully.

Another limitation relates to risks caused by self-reporting by the focus groups participants (Smithson, 2000; Price and Murnan, 2004; Krueger and Casey, 2014). The main data collected in a focus group research were the answers provided by the participants, which could include their personal biases or even dishonest answers (Smithson, 2000; Krueger and Casey, 2014). Two approaches were taken to reduce the impact of the risks. The first approach was the moderation technique of probing the rationale of the respondents face-value answers and frequently requesting them to provide real-life examples (Portugal, 2013). It is easy to provide an inaccurate answer, but difficult to create details of them. The other approach was to hand out product samples for the customers to see and touch when considering the answers in the focus groups main study. It was anticipated to trigger customers to reflect to their personal experience, which could increase the reliability of their answers.

The final limitation was that a focus group session could be dominated by certain participants. To minimise its impact, the researcher carefully prompt all participants to provide answers and to build on each other. The VBR tool also helped participants to articulate their thoughts and be ready to share their opinions (Smithson, 2000).

The most significant action that was taken to reduce the impact of the stated limitations was to include the pilot study before the main study (Kim, 2010). It enabled the testing and refinement of moderation, research tool, topics, and execution, and customer recruitment criteria. Therefore, the main study could be conducted smoothly, which yielded rich findings (see Chapter 4)

## 4 DATA, ANALYSIS AND FINDINGS

This chapter is dedicated to the presentation and initial discussions of findings gained from the analysis of data collected in the study. Following the introduction, Section 4.1 and Section 4.2 display the findings from the analysis of data that were collected in the SM text-mining and focus groups studies respectively. The last section (4.3) triangulates findings from all activities and provides preliminary responses to the research questions (Flick, 2004). These findings establish foundations for further discussions of the study in Chapter 5, which drives the achievement of conclusion.

This chapter adopts the following structure:

- Section 4.1 Findings of SM text-mining studies
  - Section 4.1.1 Findings of the first round of SM text-mining studies
  - Section 4.1.2 Findings of the second round of SM text-mining studies
- Section 4.2 Findings of focus groups studies
  - Section 4.2.1 Findings about the effectiveness of focus groups as a customer research method
  - Section 4.2.2 Findings about young Chinese diaper customers' customer-decision-journeys (CDJs)
- 4.3 Summary of Findings and Responses to Research Questions
  - 4.3.1 Responding to research question 1: How and why do customers access and employ social media (SM) in their 'decision Journey'?
  - 4.3.2 Responding to research question 2: How does SM-centred CDJ influence businesses' customer research activities in FEI and why?

### 4.1 Findings of SM text-mining studies

This section present findings of the two rounds of the text-mining studies. The aim of analysing the SM text-mining studies in this research is not to define customer needs. It is to examine if SM text-mining could be used as a customer research method in FEI to identify customer needs and inform new product ideation and its advantages and disadvantages. The responses to this aim were developed through learnings extracted from analysing the execution and results of each round of study, as well as the comparison between the two rounds.

#### 4.1.1 Findings of the first round of SM text-mining studies

Findings of the first round of SM text-mining studies are discussed in this section. A summary of data is exhibited in Table 13.

Research methods	Data collected	Research questions addressed
SM text-mining (the first round)	400,000+ customer created product reviews on JD.com, which generated 394,077 wordcounts and 1380 different keywords (see Figure 25)	Research question 2 and sub-questions

Table 13: Summary of data of the first round of SM text-mining studies [source: created in this study]

#### **4.1.1[a] The identification of customer needs based on the mined keywords**

Following the methods demonstrated in Chapter 3.3.3[b], more than 400,000 customer-created product reviews from diaper product pages of Firm A's brand on JD.COM (JD.COM, 2017) were crawled and analysed by computer within a week. Keywords were extracted automatically and grouped under each relevant product technical benefits (absorbency, sense of touch, skin care, leakage-proof, breathability, appearance, odour, material, sanitation, and fastening), which were used as queries to extract the keywords. The grouped keywords were saved in a spreadsheet, while keywords each group was ranked from the most frequently appeared keywords to the least frequently appeared. The researcher translated the keywords collection from Chinese into English before interpreting the data to identify customer needs (see Figure 25 for the excerpted spreadsheet displaying the most frequently appeared keywords in English).

To interpret the data, the researcher first read through all the collected keywords carefully. The first impressions was that, although some positive usage experience or issues were punctually displayed, like "leaked", how these experiences occurred and why could not be defined. Only by knowing, for example, how or why the leakage took place could product improvement suggestions be directly defined.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Absorbency	Frequency	Sense of Touch	Frequency	Skincare	Frequency	Leakage-proof	Frequency	Breathability	Frequency	Appearance	Frequency	Odor	Frequency	Material	Frequency	Sanitation	Frequency	Fastening	Frequency
2	Strong absorbency	10704	Soft	7173	Do not cause red hip	28207	Do not leak	6052	Breathable	22490	Have display of wetness	2103	Abnormal odor	208	Particle	205	Clean	32	Fit	17
3	Dry and comfortable	6961	Dry and comfortable	5257	Red little (hip)	1317	Do not leak urine	5931	Good breathability	16142	Pretty	85	Have odor	202	Very thin	173	Snad	9	Easy to fall off	6
4	Side leakage	311	Comfortable	4783	Red hip	1027	Leak urine	669	Stuffy	109	Good looking	64	Pungent	116	Relatively thin	141	Bacteria	5	Falling	4
5	Good absorbency	172	Extraordinarily gentle	3168	Do not cause red hip	403	Can leak	383	Breath well	74	Rough	62	Have abnormal odor	104	Rubbish	140	Polution	4	Displacement	2
6	Absorbency is very good	84	Fit	2825	little red butt	283	Side-leakage	196	Not breathable	25	Plumped	10	Have a little bit odor	101	A bit thin	105	Not clean	2	Loose	1
7	water-tight	79	Fine	961	Little red hip	146	Leak a little bit	135	Muggy	21	Do not have display	9	Smell unpleasant	47	Not equal	78	Not sanitary	1		30
8	Not bad absorbency	76	Very gentle	272	Allergy	134	Cannot leak	133	Light, thin and breathable	8	Out of shape	8	have a whiff of odor	47	Too thin	59		53		
9	Good at absorbing	67	Very soft	73	Do not have red hip	112	Do not cause side-leakage	105	Bad breathability	8	Balling up	7	Do not have abnormal odor	46	Generate lumps	48				
10	Sodden	60	A little bit hard	48	Skincare	75	Leak out	58	Strong breathability	8	Do not have display of the urine volume	6	Smell of plastic	30	Quite thin	48				
11	Absorbency is not strong	35	Light and thin	33	Hip is not red	58	Easy to leak	52	Not breath well	4	Stain	5	Odor is very strong	29	Layers went apart	34				
12	Wet	30	Soft and kind	17	Do not have red hip	30	Leaked	40	Not good breathability	3	Knotty (with a lot of knots, not smooth)	5	Strong odor	23	Small particles	32				
13	Big volume of liquid absorption	26	Exceptionally gentle	10	Eezema	27	Leaks	35	Good ventilation	3	Do not have elasticity	3	Do not have odor	21	Relatively hard	30				
14	Not dry and comfortable	25	Gentle and kind	10	Wet	27	Did not leak	28	Ventilate well	1	Very good waist design	2	Odor is very heavy	19	Lumps and lumps	28				
15	Bad absorbency	25	Sand	9	Adverse reaction	25	Leakage	24	High breathability	1	Elastic waist is quite wonderful	1	Have odor	16	Very hard	25				
16	All wet	24	Specially gentle	9	rash	21	Did not leak	19			Display is not evident	1	Weird odor	16	Not soft	16				
17	Little hip is very dry	23	Soft (in Traditional Chinese)	6	Red dots	19	Leak excrement	10			Balling up	1	Have fragrance	16	Too thick	13				
18	Good effect of absorption	23	Luxurious gentle	5	Red rash	16	Do not have side-leakage	10			Greyish	1	Smell of oil	15	Form blocks	13				
19	Do not absorb liquid	16	Extraordinarily soft	5	Red and swollen	10	bed-wetting	9			Soft and sinks	1	No odor	13	Balls and balls	10				
20	Very wet	16	Fit (a slightly different word in Chinese)	4	Flush	8	Side-leakage proof	9			Do not have display	1	Odor is strong	13	Relatively hard	10				

Figure 25: Excerpted spreadsheet displaying the most frequently appeared keywords in English (the first round of SM text-mining study, see the full data set in Appendix B) [source: created in this study]

Followed by the data reading, the researcher attempted categorisations of the data to unlock more indications. The first categorisation was to divide keywords under each group into positive and negative keywords. Then sentiments of some keywords were more obvious. For example, “rash” was clearly negative, while “good breathability” was positive. However, whether “very thin” indicated a merry usage experience was ambiguous. It was anticipated that, if associated keywords, and context sentences of the keywords were collected, the interpretation of the sentiments of the keywords could be more accurate.

The next step of the analysis was to rank the technical benefits based on the numbers of keywords that were grouped underneath them, and based on the positivity (the positivity of each technical benefit was defined as how many percent of the keywords that were grouped underneath it were positive) (see Figure 26). Through the comparison between the two rankings, the technical benefits that were with relatively weaker performances were identified. More specifically, “skincare” was the second frequently mentioned technical benefit by the customers, but was only the fifth positive one. Therefore, it was considered to be a product characteristics with relatively clear unmet user needs. The other underperformed technical benefit was odour, of which the majority of the related keywords were negative. In summary, “skincare” and “odour” were identified as the potential areas where unmet customer needs could be located at.

Followed by the identification of the two least fulfilled product technical benefits, the most critical issues around the two technical benefits were also sought after. The issues were expected to be reflected in the keywords that were identified from customer-created product reviews. The researcher determined to categorise the synonyms among the keywords that were related to each technical benefit, as the synonyms usually indicated the same issue (see more discussions in Section 4.1.1[f]). For example, “red hip” and “little red hip” shared the same meaning (see Figure 27 and Figure 28). After the synonyms were grouped together, the dominant issues that were associated to “skincare” were emerged to be “red hip” (see Figure 29), while the most vital product problems related to “odour” were identified as “have odour” and “abnormal smell” (see Figure 29). After communicating with Firm A’s staff, “red hip” was confirmed to also be a synonym of “nappy rash”, which was a popular slang among Chinese parents.

Therefore, the unmet customer needs identified through the SM text-mining study were (1) the new design of the diaper products should reduce the issue of “nappy rash”, and (2) the odour/abnormal smell of it should be diminished or reduced. However, the

researcher believes that this interpretation should only serve as an initial understanding of customer needs. There were still questions remained unsolved. First, what were the causes of the “nappy rash” problems could not be confirmed purely through the mined product reviews. In accordance with customer knowledge of the marketing department of Firm A, a significant factor that could lead to an infant to develop “nappy rash” was that the parents did not change diapers for their children frequently enough. In this situation, the cause of the problem was the parents childcare behavior instead of the functional features of the diaper products. The researcher could not determine the actual causes based on the existing evidences as the mined product reviews did not indicate the customers’ product usage behaviour, while the technical details of the product were inaccessible for the researcher.

The second debatable question was how significant were “red hip”/nappy rash and “have odour”/ “abnormal smell” as issues for the customers, since each of them merely accounted for a small portion of all the keywords in the same group. More specifically, under the “skincare” group of keywords, “do not cause red hip” appeared for 23207 times, whereas “red hip” were mentioned for 2344 times. It indicated that significantly more customers found the product did not cause the rash issue than those encountered the problem. Hence, without more in-depth customer research, it was unclear if Firm A should prioritise addressing the nappy rash issue. Besides, although the keyword frequency of “have odour” and “abnormal smell” each overtook the positive counterparty “do not have abnormal smell”, the total keyword count around “odour” was low among all technical benefits. Therefore, it was questionable that whether reducing odour should be a significant customer need for Firm A to address in the new product design.

If the text-mining data could demonstrate a comprehensive and authentic picture of customers’ product opinion was also questionable. As the text-mining execution needed to input product technical benefits as queries to collect words, all data collected were relevant to these product characteristics identified by Firm A. It means that, if customers have any unmet needs that were unrelated to these characteristics, they could have been ignored.

In summary, the SM text-mining study enabled the initial identification of customer unmet explicit needs. However, how reliable and relevant were these needs were questionable, which required further studies to verify. The following sections discuss the findings about the key learnings of advantages and disadvantages of SM text-mining as a customer research method.

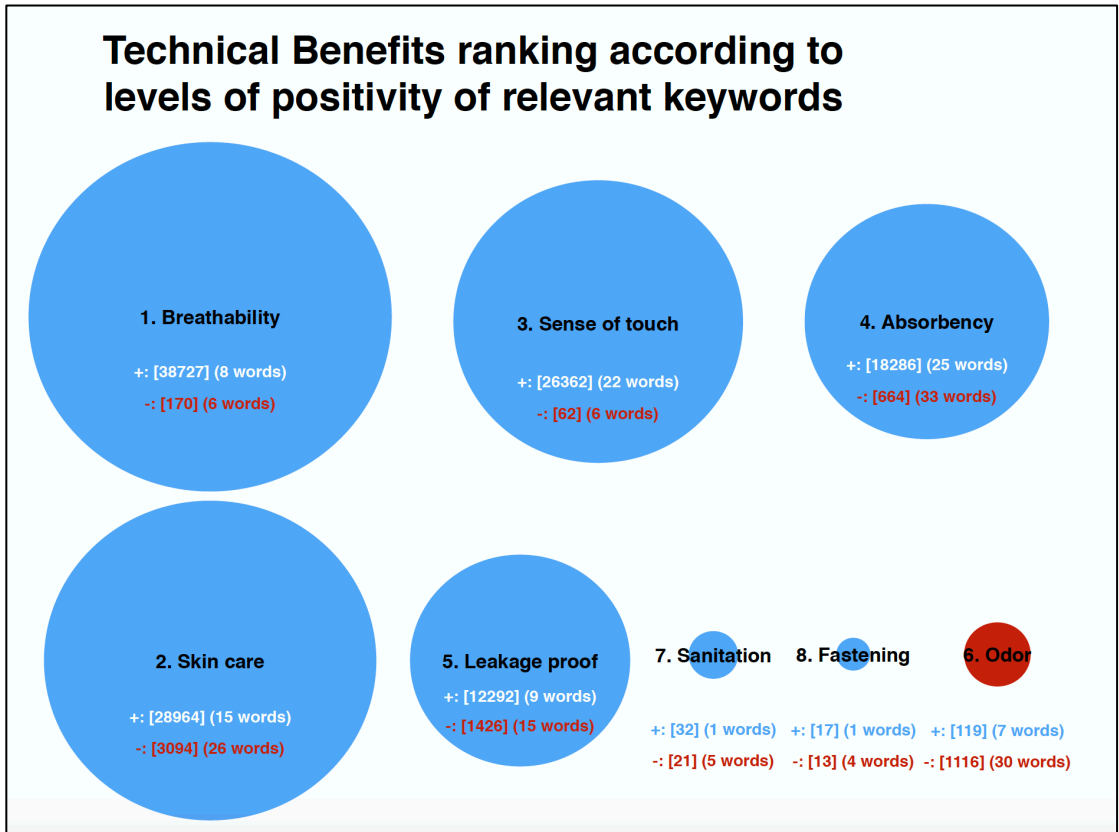
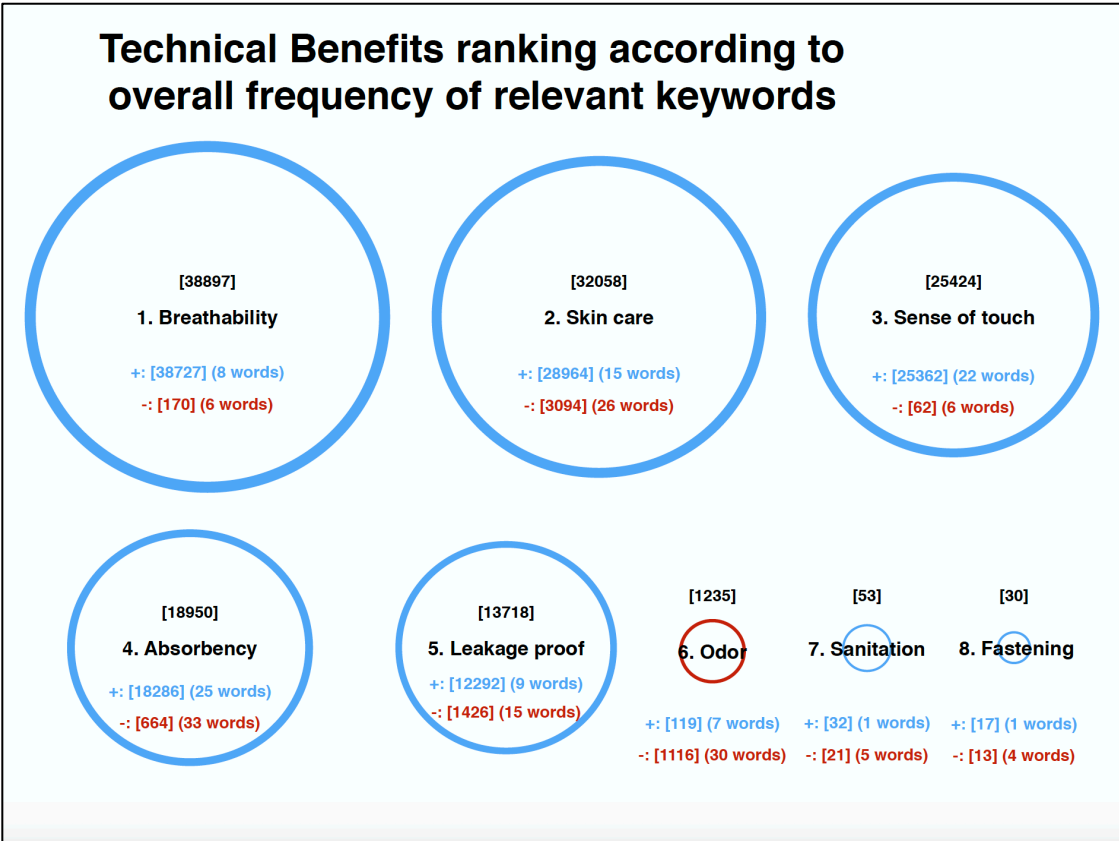


Figure 26: Rankings of product technical benefits according to total keywords frequencies and levels of positivity (key: blue=positive sentiment; red=negative sentiment; numbers=word frequency) [source: created in this study]



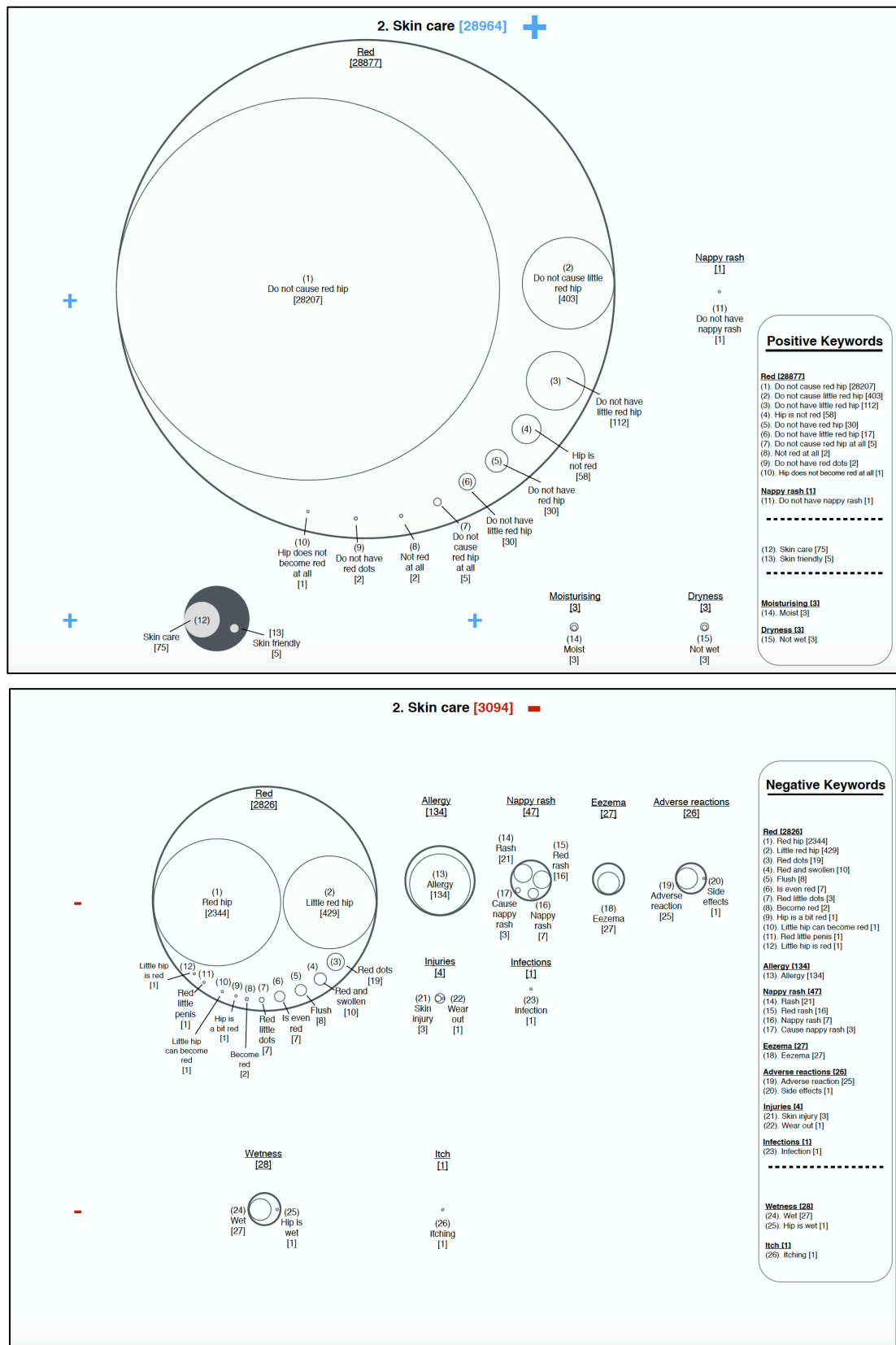


Figure 27: Categorisation of keywords that were related to “skincare” (key: blue=positive sentiment; red=negative sentiment; numbers=word frequency) [source: created in this study]

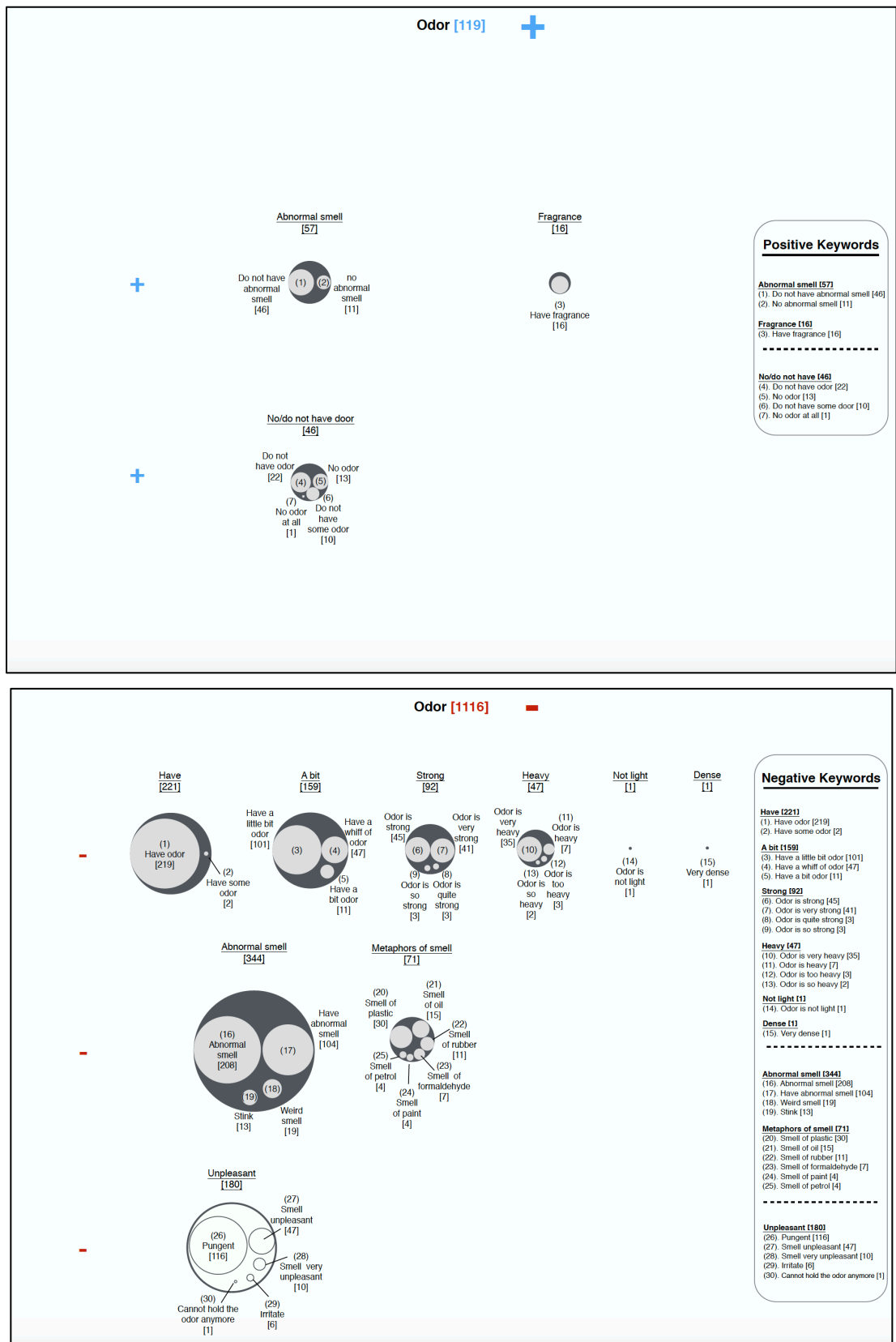


Figure 28: Categorisation of keywords that were related to “Odour” (key: blue=positive sentiment; red=negative sentiment; numbers=word frequency) [source: created in this study]

Technical Benefits		Breathability [38897]	Skin care [32058]	Sense of touch [25424]	Absorbency [18950]	Leakage proof [13718]	Odor [1235]	Sanitation (clean) [53]	Fastening (side-stretch) [30]
Key words & Phrases	+	Breathable [22490]	Do not cause red hip [28207]	Soft [7179]	Strong absorbency [10704]	Do not leak [6052]	Do not have abnormal smell [46]	Clean [32]	Fit [17]
	+	Good breathability [16142]		Dry & comfortable [5257]	Dry & comfortable [6961]	Do not leak urine [5931]			
	+			Soft & kind [4783]					
	+			Soft [3168]					
	+			Fit [2829]					
	+	Others [95] (6 words/phrases)	Others [757] (14 words/phrases)	Others [2146] (17 words/phrases)	Others [621] (23 words/phrases)	Others [309] (7 words/phrases)	Others [73] (6 words/phrases)	Others [0] (0 words)	Others [0] (0 words)
	-	Stuffy [109]	Red hip [2344]	A little bit hard [48]	Side leakage [311]	Leak urine [669]	Have odor [219]		
	-					Can leak [383]	Abnormal smell [208]		
	-	Others [61] (5 words/phrases)	Others [750] (25 words/phrases)	Others [14] (5 words/phrases)	Others [352] (32 words/phrases)	Others [374] (13 words/phrases)	Others [689] (28 words/phrases)	Overall [21] (5 words/phrases)	Overall [13] (4 words/phrases)

Figure 29: The most frequently appeared keywords in relation to each technical benefit (key: blue=positive sentiment; red=negative sentiment; numbers=word frequency)

[source: created in this study]

#### 4.1.1[b] The high efficiency of text-mining as a FEI-focused customer research methods

The first finding of the first round of SM text-mining was the efficiency of SM text-mining as a customer research method. The efficiency was revealed in three aspects, including (1) a large number of data was collected in a short period, (2) low labour demand, and (3) the elimination of the need of business trips. All the aspects also result in a relatively low cost.

More specifically, the partner market research agency crawled more than 400,000 reviews that include 394,077 words or phrases from diaper product pages of the firm's brand on the top Chinese e-commerce site JD.COM (JD.COM, 2017) within a week. The agency also identified 1380 keywords from these reviews and clustered them around each product technical benefit defined by the firm. All the data mining, processing and initial analysis were conducted in a high-speed with merely one data scientist employed. Also, the researcher did not need to travel to China for this study. As it made use of product reviews voluntarily posted by customers onto SM platforms publicly, efforts like recruitments of participant, research workshops coordination and facilitations were not

needed. Therefore, the consumptions of human, monetary, and time efforts were efficient.

#### **4.1.1[c] The absences of in-depth understanding of customers and the lack of radically innovative insights**

Despite the efficiency and effectiveness of SM text-mining in informing product insights, the absences of in-depth understanding of customers and the lack of radically innovative insights were also identified from the text-mining study results. For instance, as mentioned in Section 4.1.1[a], although the text-mining results revealed “red hip” or “nappy rash” as a problem of the product, the cause of the problem and the relevant customer product usage behaviour remained unknown. Also, the results were more likely to inspire product improvements, which could potentially reduce market uncertainty. Therefore, the innovation enabled by the text-mining study was more likely to be incremental instead of radical (Herstatt, et al., 2004).

The first cause of the absences of in-depth understanding of the customers could be the stripping of the context where the keywords were collected from. As exhibited in Figure 25, merely keywords and phrases were crawled and stored. Any relevant information, like the literal context, the time of publication, and information of publishers were ignored. Under this circumstance, it was impractical to pursue in-depth interpretations of the data with rigour. This result encouraged the researcher to conduct a second round of text mining studies using a different algorithm (see Section 4.1.2). Second, the mining of existing data could not allow the project team to ask follow-up questions or observe customers’ product usage behaviours to discover deeper insights.

The reason of the lack of radicalness can also be twofold. First, the nature of the data mined might have determined the incrementalism of the insights. These data were provided by any types of customers without segmentation (see Section 3.3.3[b]). However, academic findings proposed that merely lead users could provide insights for radical innovation (Von Hippel, 1986). Second, all the collected data were product reviews that were posted by customers about their experiences with current products. This focus on current products might have intrinsically restricted the scope of information that was required for radical innovation, which usually involved new market and new technology explorations (Herstatt, et al., 2004; Langerak and Jan Hultink, 2006; Chen, et al., 2012).

#### **4.1.1[d] The lack of customer centrality**

The algorithm adopted in this round of SM text-mining require a pre-determined set of inputs. In this case, Firm A was requested to provide product features (as queries) that were established by them (see Section 3.3.3[b] for details). The market research agency first downloaded all customer reviews on JD.com that were generated within February 2014 to construct a corpus. Once the corpus was ready, they entered the words provided by Firm A as queries to identify keywords from customer reviews. Following this method, the identified keywords were all semantically associated with the product features established by Firm A. In other words, this round of study placed Firm A's perspective of the products at the centre instead of customers'.

#### **4.1.1[f] Reliance on manual data interpretation**

Manual analysis based on categorizing strategy was necessitated to define insights from the automatically generated results (keywords). Specifically, "affiliate mapping" technique was adopted to cluster the mined keywords. It is a method that is widely adopted by product designers or design researchers, which request the designers/researchers to make meaningful associations between data points based on personal interpretation (Kolko, 2010, 2011). Its purpose is to unlock a deeper meaning from the scattered data point. The affiliate mapping of the text-mining results in this activity resulted a series of clusters of keywords. The meanings of keywords in each cluster was considered to be associated. For example, as demonstrated in Figure 27, keywords that were related to the same product features or problems, like "red hip" "little red hip" "red dots" were gathered together. The cluster that contains higher number and frequencies of keywords represented the more significant product features or problems in customers' opinions (see more discussions in Section 4.1.1[a]).

This analysis enabled the identification of which were the most significant positive experiences or issues that customers encountered during usage. It indicated the unmet needs of the customers that Firm A can address through new product development. However, as the analysis was based on the researchers' interpretation, the objectivity or rigour of the insights could be questionable. A corroboration of computing enabled analytics or further investigation about customers could enhance the reliability of the result.

Market standard SM text-mining was conducted by the data scientist. In the researcher's opinion, computing capabilities of the text-mining activity could be further leveraged. However, this market-standard text-mining practice already provided new and

informative insights that could drive product innovation. More significantly, both the researchers and Firm A gained learnings and experiences of research design, collaboration partner selection, and financial planning for future SM text-mining studies.

#### 4.1.1[g] The great amount of existing customer-generated product information

Currently, around three million reviews of the brands' product can be found on the E-commerce site (JD.COM, 2017) (see Figure 30). While the analysis of 400,000 items in this study was sufficient to inform new business idea formation, the use of larger quantity of the content might unlock significantly greater opportunities.



Figure 30: A sample of the brand's product page on JD.com that contains nearly three million product reviews from customers [source: adapted from JD.COM, 2017]

#### 4.1.2 Findings of the second round of SM text-mining studies

The analysis of the Round Two SM text-mining data focused on looking at the advantages and disadvantages of SM text-mining as a customer research method. Following the same structure of the evaluation of the Round One text-mining study, the extraction of findings of the second round of study directly looked at:

- Accuracy of data and level of automation of data analysis (Section 4.1.2[a])
- Efficiency of the study (Section 4.1.2[b])
- Depth of understanding of customers and level of innovativeness (Section 4.1.2[c])
- Level of customer centricity (Section 4.1.2[d])

A summary of data is exhibited in Table 14 in the next page.

Research methods	Data collected	Research questions addressed
SM text-mining (the second round)	8 corpora of customer reviews from 737 pages of Mumsnet and Amazon.co.uk, which resulted in 5308 different keywords, 1002 different collocates, and 520 concordances (see Figure 32-35)	Research question two and sub-questions

Table 14: Summary of data of the second round of SM text-mining studies [source: created in this study]

#### 4.1.2[a] Enhanced accuracy of data and automation of data analysis

A predominant finding of the second round of SM text-mining study was the enhanced accuracy of the research results. It was reflected in three aspects. First, the collected data was distributed in segment and SM platform specific groups. In accordance with the plan, this trial text-mining study crawled texts and established eight corpora (each corpus was comprised of customer reviews of one product from one SM platform) (see Figure 14 in Section 3.3.3[d]):

- Corpus 1: Product A customer reviews from Mumsnet
- Corpus 2: Product A customer reviews from Amazon.co.uk
- Corpus 3: Product B customer reviews from Mumsnet
- Corpus 4: Product B customer reviews from Amazon.co.uk
- Corpus 5: Product C customer reviews from Mumsnet
- Corpus 6: Product C customer reviews from Amazon.co.uk
- Corpus 7: Product D customer reviews from Mumsnet
- Corpus 8: Product D customer reviews from Amazon.co.uk

This aspect allowed the team to gain segment specific product insights.

Second, it applied statistical language analysis (1) to identify keywords (see Figure 31, 32 and 33) and to identify affiliate words that frequently appear around each keyword (collocates) (see Figure 31, 32 and 34), (3) to enable the search of context sentences (concordances) through selecting one keyword or one keyword with one associated word (see Figure 31, 32, and 35). These techniques enhanced the objectiveness of sense-making of the product reviews through leveraging advanced computing capabilities, statistical analysis backed by academic research, and improved research design. For example, from the results, the project team did not merely find out “sleep” was a significant consideration for the customers, but learnt that this consideration was usually

linked with babies' sleeping position of lying on front/tummy (see Figure 11). It revealed a user behaviour that could enhance Firm A's customer understanding. In other words, the affiliate mapping that was conducted in the first round of SM text-mining study was fulfilled automatically by the computer through an algorithm in the second round, which eliminated the input of personal mindsets of product researchers (see Section 4.1.1[f]). However, it is not to de-value the human interpretation in the analysis of the product reviews. Rather, it allowed the corroborations between the statistical and human cognitive aspects.

Third, as concordances were collected for each keyword or collocates, the product researchers could track back the contexts of the keywords or affiliated words. This assisted the researchers to gain a less biased or less assumption based interpretation of a keyword. For instance, without the context, the associated words "12" and "dry" could be interpreted to indicate that the product kept the baby dry for 12 hours. However, the concordances like "very easily I bought this as it says Dry for 12 hours, but very disappointed. They are very easily leaked, even" indicated that it the "dry for 12 hours" was a product benefit claimed by the brand, whereas the actual usage experience did not fulfil the benefit.

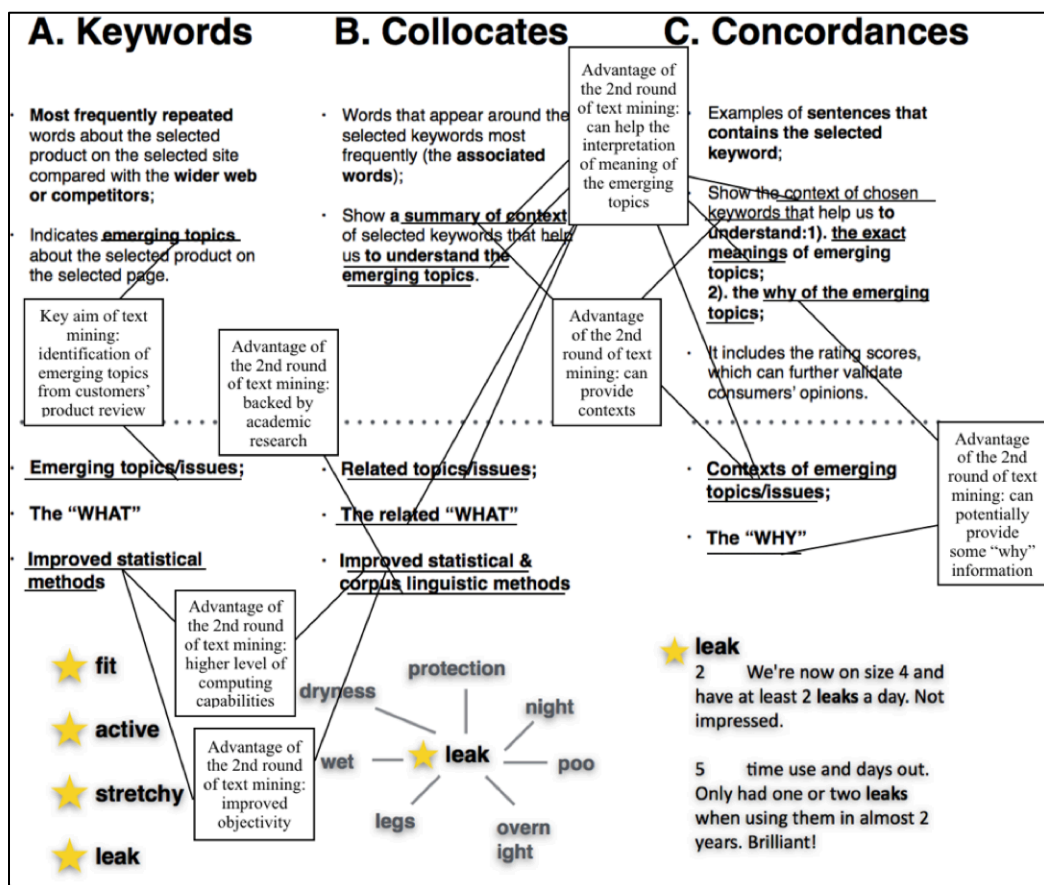


Figure 31: Analysis of the Data Collection Scope Plan [source: created in this study]



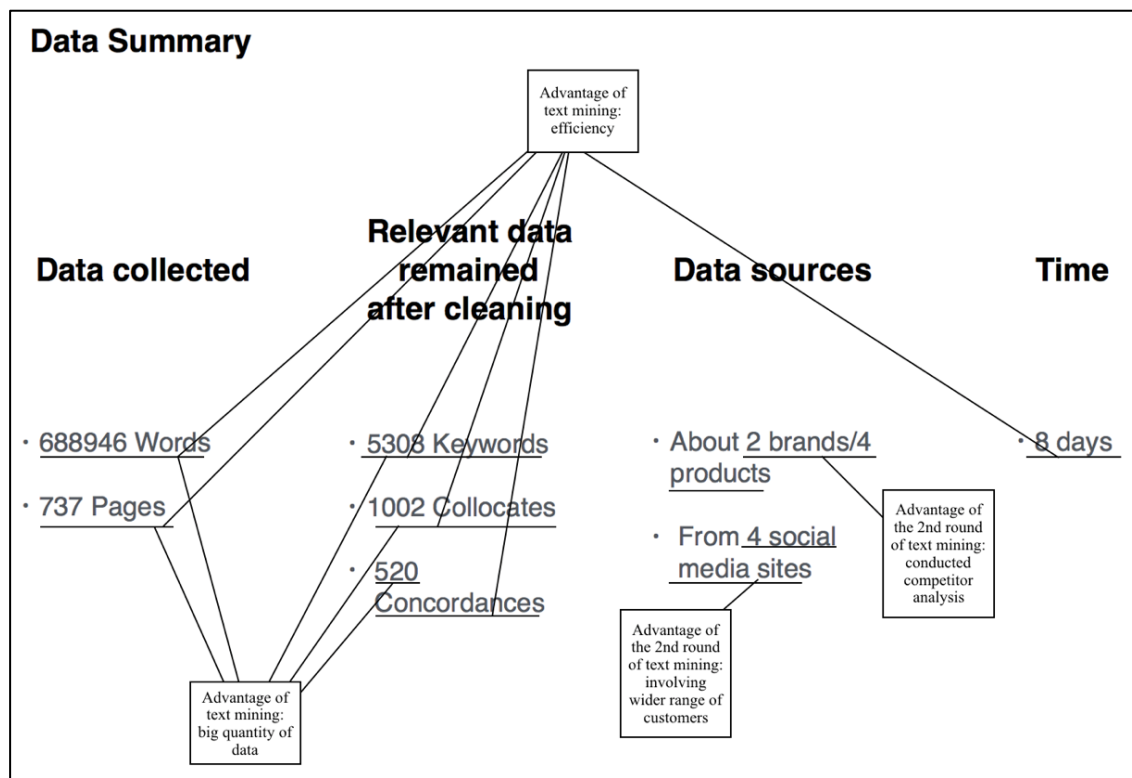


Figure 32: Analysis of Data Collection Results Summary [source: created in this study]

WORDS RELATED TO	Product A
back	
rash	
right	
stretchy	
occasions	
enjoy	
awake	
even	
fantastic	
recommend	
better	
washed	
free	
thick	
sleeper	
ill	
duvet	
moves	
travelling	
tummy	
expensive	
prices	
long	

Figure 33: Screen clip of a part of the keyword collection of Product A from Mumsnet [source: created in this study]

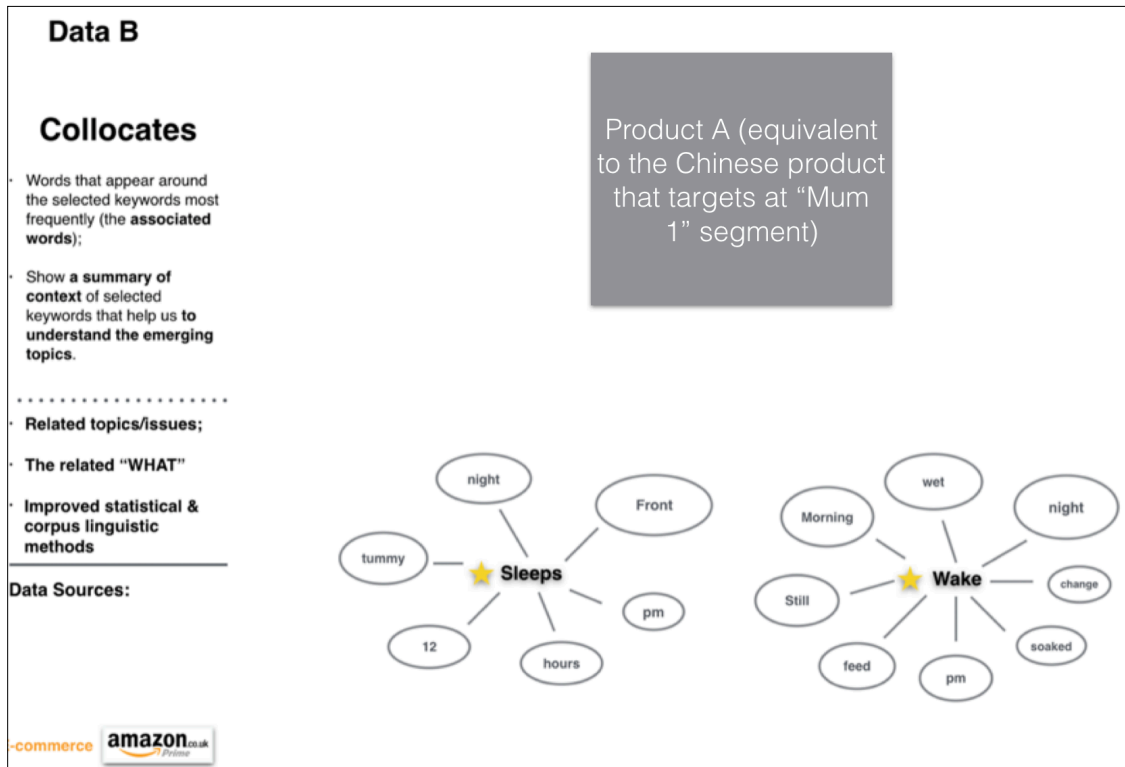


Figure 34: Example collocates [source: created in this study]

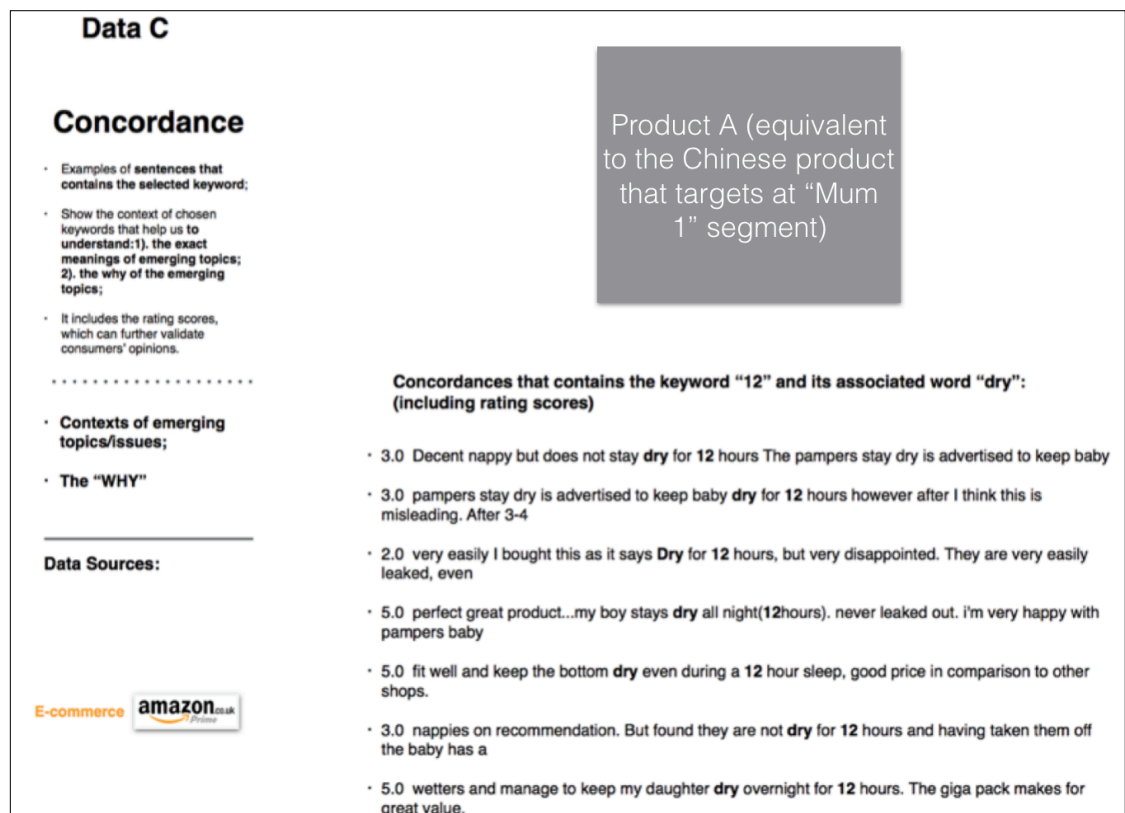


Figure 35: Example concordances [source: created in this study]

#### **4.1.2[b] Enhanced efficiency thanks to improved research design and technology**

This round of SM text-mining also demonstrated the advantage of high-efficiency of the text-mining method. First, within eight days, the team of three researchers collected 688946 words from 737 pages of customer product reviews. Analysis was also completed to generate 5308 keywords, 1002 collocates, and 520 concordances (see Figure 32). Second, while data were collected from customers all around the UK or even the world, travels were not needed. Additionally as it utilised the existing product reviews posted by customers on SM, participants recruitment, research sessions organisations and facilitations were not required. All these aspects also contributed to the cost efficiency of this study.

#### **4.1.2[c] Lack of depth and radicalness of insights**

Like the first round of SM text-mining study, this round of text-mining study did not generate in-depth and radically innovative customer insights. The concordances that were specially collected in this round of text-mining could reflect the contexts of keywords or affiliated keywords (see Section 4.1.2[a]). However, more context was sometimes needed for product researchers to gain a decent comprehension. For example, the concordance “very easily I bought this as it says Dry for 12 hours, but very disappointed. They are very easily leaked, even” revealed that the product failed to let the baby stay dry as it leaked easily (see Figure 35). Yet, it did not indicate how and when the leakages happened. Did they happen in a certain occasion? How did the parent(s) put on the diaper for the baby? The absence of these in-depth insights made product innovation remain under-informed. If the researcher found out that the leakage happens only while the baby was crawling, a suggestion could be made to improve the product performance during physical activities. Therefore, although the concordances helped the team to develop more accurate understanding of customers’ opinions than in the previous round, the depth of comprehension remained improvable.

In addition, direct communications with customers were still not included in this study as a nature of the SM text-mining method. It means that further explanation from customers could not be obtained, which prevented more in-depth customer insights to be developed.

The lack of in-depth understanding of customers could lead to the lack of radicalness of customer insights. According existing knowledge, knowing customer intrinsic needs and latent needs is more likely to trigger radical innovations than knowing customer product needs and expressed needs (Van Kleef et al., 2005; Brown, 2009; Brown and Katz, 2011). The findings from this round of text-mining research are mainly product needs, as

the mined contents were product reviews, as well as expressed needs, as in-context ethnographic style research or co-creation over a period of time are usually needed to uncover latent needs (B. -N. Sanders, 2002; Patnaik and Becker, 1999; Moggridge and Atkinson, 2007; Binkhorst and Den Dekker, 2009; Miller, 2001; Hanington, 2003). In other words, if the text-mining study focused on a different type of content, collected concordances that included more sentences, and was conducted over a period of time, it might be able to generate insights for radical innovation.

#### **4.1.2[d] Improved Customer Centricity**







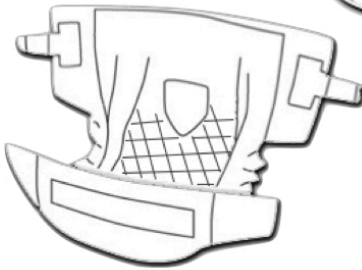




An enhanced customer centricity can be observed in this round of SM text-mining study. It was enabled by the text-mining and analysis algorithm. This algorithm did not require the inputs of any enquiries. Instead, after downloading texts and forming corpora, it leveraged a statistical method that identify keywords, collocates, and concordances directly through analysing the corpora (See Section 3.3.3[a] and examples in Figure 33, 34, and 35). In other words, this method did not identify keywords through searching for words that were related to product characteristics that were defined by Firm A like the first round. It directly extracted the key opinions from the customers' angle. As the research was helping Firm A to adopt a customer-centred approach for NPD, this algorithm better served the ideology and goals.

## **4.2 Findings of Focus groups studies**

This section introduces the findings of the focus groups studies. Two areas of findings were developed: (1) findings about the advantages and disadvantages of focus groups method as means of customer research in FEI, and (2) findings about young Chinese diaper customers' CDJs. As the first area of findings aligned with the theme of the findings of the text-mining findings (see Section 4.1), it is presented first (in Section 4.2.1), followed by the description of the second area of focus groups findings (in Section 4.2.2).

Based on the research design (see Section 3.3.4), a pilot and a main study were conducted. When analysing data, the researcher extracted findings from each round of study independently prior to aggregate findings of both rounds and develop synthesised findings. This section describes the synthesised findings to avoid lengthy contents. The synthesised findings also include the majority of the findings of each round of study. In addition, as the purpose of the pilot study was to test the research design and create refinement for the design of the main study, the main learnings of the pilot study were generally mentioned in the Methodology chapter (see Section 3.3.4[b]).

The findings were mainly gained through analysing focus groups participants' responses to the visual-based research (VBR) tools and transcripts of the follow-up group discussions (See Figure 36).

Technical Benefit Recognition Template					
Consumer Group:		Consumer Name:			
BRAND	Logo of Firm A brand - product targeted at "Mum 1"	TECHNICAL BENEFITS	HOW DOES THE PRODUCT ARTICULATE THIS TECHNICAL BENEFIT?	PRODUCT ATTRIBUTES	HOW DOES THE PRODUCT ARTICULATE THIS PRODUCT ATTRIBUTE?
<p>FRONT</p>  <p>BACK</p> 		 Breathability		 Surface finish	
		 Sense of touch		 Material quality	
<p>INTERIOR</p> 		 Absorbency		 Aesthetics	
		 Odour		 Design features	

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Figure 36: VBR tools used in each part of the focus groups main studies [source: created in this study]

#### 4.2.1 Findings about the effectiveness of focus groups as a customer research method

This section discuss findings about the effectiveness of face-to-face focus groups as a customer research method. It aims at responding to the second research question and sub-questions. A summary of data is exhibited in Table 15 below.

Research methods	Data collected	Research questions addressed
Face-to-face focus groups with the support of VBR tools (pilot and main studies)	<ul style="list-style-type: none"><li>• 36 sets of VBR tools completed by 36 participants of the main study (see Figure 38)</li><li>• 93 pages of transcripts from the main study that includes 6 focus groups sessions (see Figure 36)</li><li>• 60 photographs taken in the main study (see Figure 42)</li><li>• 7 pages of notes taken by the researcher in pilot and main studies (see Figure 41)</li></ul>	Research question 2 and sub-questions

Table 15: Summary of data of the parts of focus groups studies that address the second research question and sub-questions [source: created in this study]

##### 4.2.1[a] The focus groups method is resource demanding

The findings suggested that the focus groups method demanded greater resources than the SM text-mining approach. More dedicated personnel (facilitator, transcriber, customer recruitment agency, drivers, maintainance staffs) were necessitated. Additionally, it involved international travels (between the UK and China), physical space rental, and participants recruitment. These factor also resulted in higher budget. Moreover, although the offline focus groups studies did not request advanced computing skills or SM usage knowledge as text-mining studies and forum observation did, it demanded decent moderation techniques. If the focus groups studies were to be brought onto SM platforms or SM co-creation studies were to be conducted, both advanced computing and moderation skills would be necessitated.

##### 4.2.1[b] The time flexibility of focus groups method is lower than SM text-mining

The study revealed that focus groups studies provided lower time flexibility comparing with the SM text-mining method. It was because focus groups studies required all

stakeholders (including the participants, the researcher, and staff members of Firm A) to be available during the same time period. As both the staff members from Firm A and the researcher had intensive daily agendas, it was challenging to reach a consensus of time for study execution. In comparison, the determination of time to execute the SM text-mining studies was effortless. The first reason was that the data to collect (customer-generated product reviews on SM) already existed and was accessible anytime. Besides, as merely one researcher and one data scientist was needed to conduct the study, there was no need to coordinate different persons' availabilities. Finally, the text-mining studies were conducted online. They did not require stakeholders to be at the same location altogether. The team anticipated that, to conduct the study online could potentially optimise time arrangements.

#### **4.2.1[c] The benefit of visual based research (VBR) tools**

Findings from the second round of focus group studies demonstrated that the use of visual based research (VBR) tools helped to facilitate the acquisition of rich customer insights (see Chapter 3.3.4[b] for more details of the tool design and employment).

The VBR tools ensured that all participants contributed their answers, while the answers were structurally captured. It was because it presented the same visual (the illustration of nappies and the colour and shape coded stickers) and verbal (the product functional and emotional features) stimuli to all the participants and all participants were given the same sample and time to write down their answers before group discussions. This approach resulted in five benefits in both data collection and analysis perspective.

For data collection, it first ensured that no participant's voice was absent, as each participant left answers on the tool. It also prevented participants who tend to be quiet in a group to stay silent, as the tool let them capture their thoughts before sharing out. In the group discussions following the tool completion in each focus group session, all attendees were able to provide responses.

Secondly, the VBR tools made data collection efficient. As in each focus group session, each participant was given a set of tools to complete, data from all participants could be captured at the same time. This approach was significantly more efficient than asking each question to all participants one by one and noting down the answers. It also left sufficient time for the researcher to ask follow up questions to gain more in-depth understanding of the participants' answers or to clarify doubts. For example, as the researcher realized that participant 2a02 (from the "Mum 2" segment) mentioned about

lack of elasticity of the waist area twice, the researcher questioned the participant how significant was the issue and why. The participant did not only explained that it was a critical issue as it could make the child very uncomfortable, but also raised an additional problem of the sharp shape of the waist sticker, which could hurt the child's skin (see Figure 37). These two issues received endorsements of the group, although they did not think of them when filling in the tool.

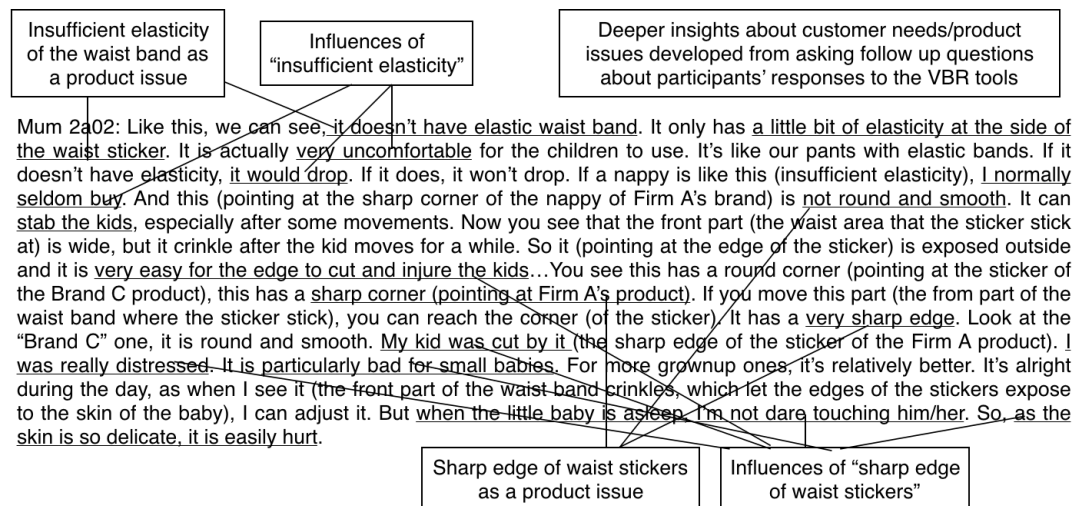


Figure 37: Focus groups transcripts that demonstrated the extra explanation about elasticity and sharp edge issues of the diaper products given by participant "Mum 2a02" [source: created in this study]

The data collection was also well organised thanks to the aids of the tools. The tool presented the same set of questions in the identical structure to all participants (see Figure 21), hence answers from every participant were collected following the same framework (see Figure 38). The researcher also adopted the tool as the note taking template. Consequently, It simplified the data analysis by allowing the researcher to clearly compare answers about different brands, given by different customers, and the notes following its structure. As a result, a one-page summary of all participants' opinions about each product was also produced using the tool (see Figure 39).



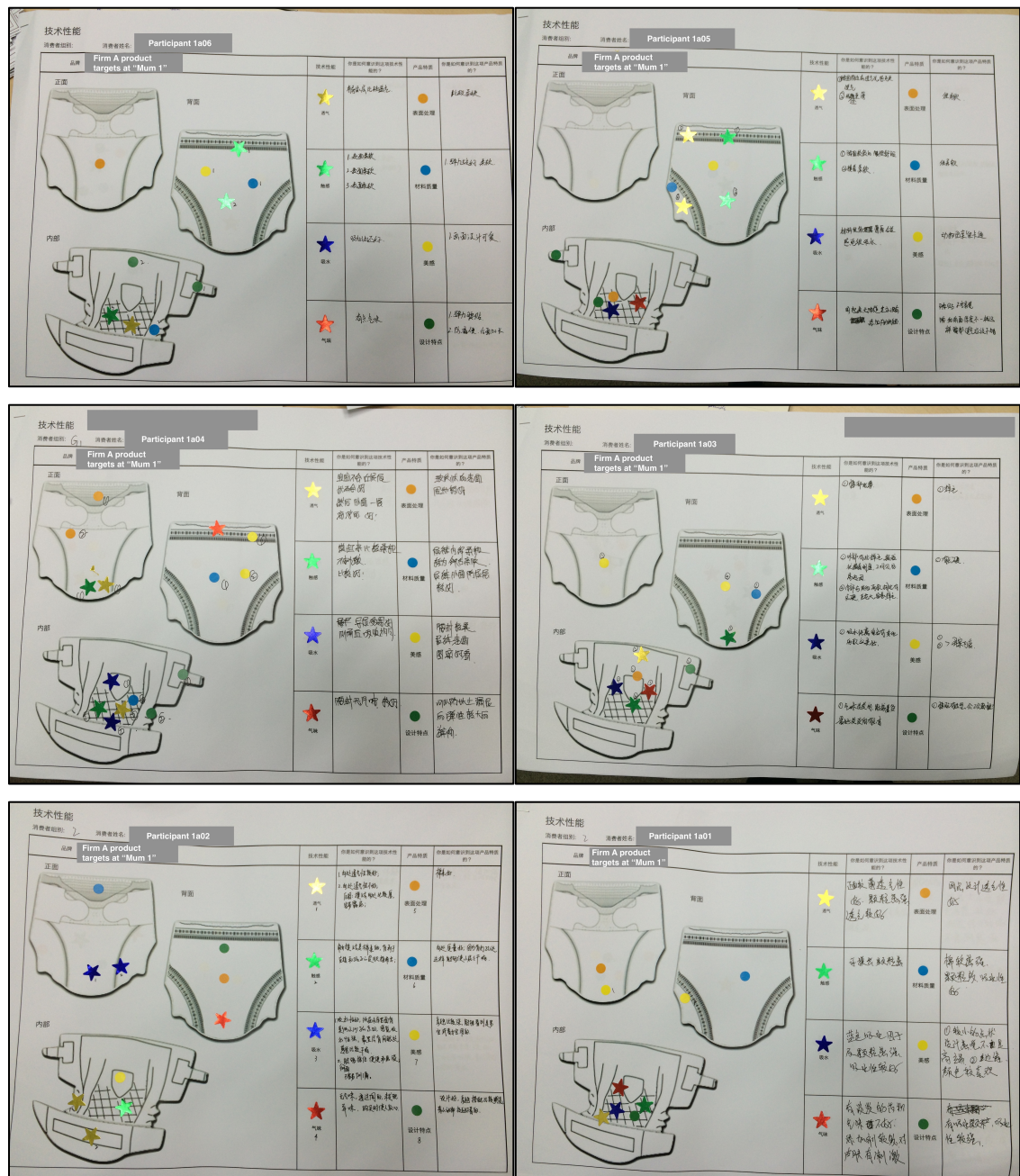


Figure 38: Tools about Firm A product targets at "Mum 1" customers that were filled in by 1 group of "Mum 1" participants [source: created in this study]

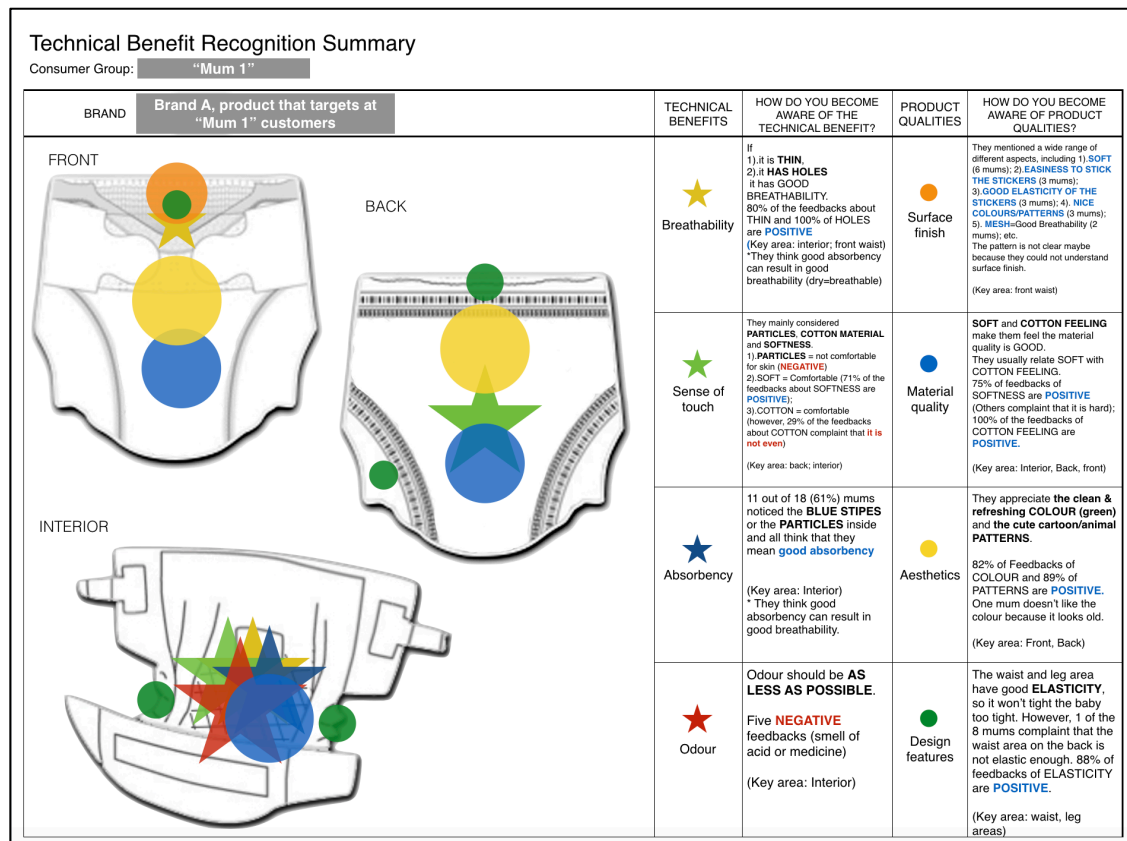


Figure 39: the one-page summary of synthesized findings of "Mum 1" participants' opinions about the Brand A product [source: created in this study]

The final benefit of the VBR tool was that it allowed the team to pretest its viability of being used in online research. A market research agency that offer online research tools and services was consulted to assess if the VBR tool was digitisable. The result was that the VBR tool could be digitised used online with existing technology. In a digital and/or online version, participants could insert marks on the illustrations through clicking and dragging. They could also type texts to state how they become aware each product characteristic. To assist data analysis, the computer can automatically create a "heat map" graph to demonstrate participants' marking patterns on the diaper graph like what the researcher did for the one-page summaries (see Figure 39). It could also use text-mining to identify key information in the texts that customer typed in. Therefore, the one-page summary of each product could potentially be created automatically. It was anticipated by the market research agency that was possible to build and test the digital VBR tool in the near future.

#### 4.2.1[d] The benefit of leveraging customer decision journey (CDJ) activities in the focus groups sessions

Findings suggest that the second round of focus groups sessions benefited from leveraging one of customers' decision making activities. As mentioned in Section 3.3.4[b], the study requested customers to observe and test product samples while filling in the research tools. As a part of the moderation plan, the researcher encouraged the customers to mimic how they test or experiment the product in their real-life CDJ process (see findings about CDJ in Section 4.2.2). Through the observation of the actions of the customers, the researcher gained more vivid and in-depth insights of customer needs (see more details in Section 4.2.1[e]). For example, the researcher learnt that customers visually check, touch, smell and use liquid to test the diaper products carefully (see Figure 40). Hence, one suggestion that the researcher provided to Firm A was to truly improve and ensure the product quality instead of merely enhance their marketing efforts, as the customers could realise the actual performance of the product by elaborative examinations. In other words, it was the observation of customers' mock CDJ activities that enabled the researcher to gain a valuable insight, which inspired a business suggestion.

RECOGNITION OF TECHNICAL BENEFITS (the brand of Firm A)									
MUM 2									
No. of Focus Groups	Code of participant	BREATHABILITY		Sense of Touch		Absorbency		Odour	
		Where	How	Where	How	Where	How	Where	How
FG4	2b01	Interior	Feel a bit unbreathable. Doesn't have air hole	1. Interior Back, exterior	Feel rough, like sand. Don't like.	Exterior, Front	The cotton quality is good, smooth	Interior	Has light fragrance
	2b02	Interior	Thin, should be breathable	Exterior, back	So so, has particles	Interior	loose and soft, but the grids are not deep enough, so the absorbency might be so so	N/A	No odour
	2b03	Interior	Poured some water to see the changes on the surface; So so.	1. Interior 2. Exterior, front 3. Exterior, back	1.The interior is soft and gentle, good 2/3. Front and back (exterior): soft, the material feels loose, not good	Interior	Poured some water to see the changes on the surface; So so.	Interior; Exterior, front Exterior, back	No. Good.
	2b04	Interior; Exterior, back, bottom	Good	Interior; Exterior, front	Soft and gentle but can feel the little lumps when touching	Interior	Has liquid absorbing bubbles, can become thicker	Interior	Is it the smell of green tea or what? Has fragrance
	2b05	Interior	Feel a bit unbreathable. Doesn't have air hole	Front; Back Interior	Feel rough, like sand. (I) don't like.	Front; Back; Interior	Doesn't absorb much; occasionally leaks; The cotton inside breaks into several parts	Interior	Smell a bit acid. not good
	2b06	1.Exterior front; 2.Exterior, Back; 3.Interior	1 Here is the area the urine should be stored and accumulated (when sitting, etc.) So So 2 The area that the urine is stored and accumulated during the night when sleeping Not so good 3 It covers most of the area of the hip: the key area of permeability of urine and excrement Quite good	1.Waist stickers 2.Leg areas	1.The waist sticker. Can see if the nappy is delicate from here. Is it too tight or fit? Does it hurt the skin? 2.(To check) If the leg area is too tight. Comfort is extremely important. This one is good.	1.Exterior, back; 2.Interior	1.The sponge layer at the back is relatively thin. It is where the urine accumulates and stored during the long time overnight. (Not so good) 2.Where the urine accumulates and stored during daytime activities. (So so)	Interior	No odour. Can feel relieved.

Figure 40: Summary of one group of “Mum 2” participants’ responses to the tool that indicated the usage of water to test the product [source: created in this study]

#### 4.2.1[e] The benefit of face-to-face setting of the focus groups studies

The findings suggested that the face-to-face setting of the focus groups allowed the project team to gain a deep and lifelike sense of customers' interactions with the product. One example could demonstrate this finding. A common routine of actions among the interviewees of using cheeks or the inner side of thigh to touch the sample diaper products was observed by the research team in the sessions (see Figure 41 and Figure 42). The customers adopted these behaviours to assess the softness of the diaper. From this observation, the focus groups studies did not only confirm the significance of "smoothness" as a product feature, but also discovered the method to test it. The researcher also obtained a vivid understanding of the carefulness of the customers. The non-face-to-face research like text-mining could not provide this type of insights. It inspired the researcher to pay attention to a balance between face-to-face and non-face-to-face research in a customer study to leverage the advantages of both and compensate each other's disadvantages.

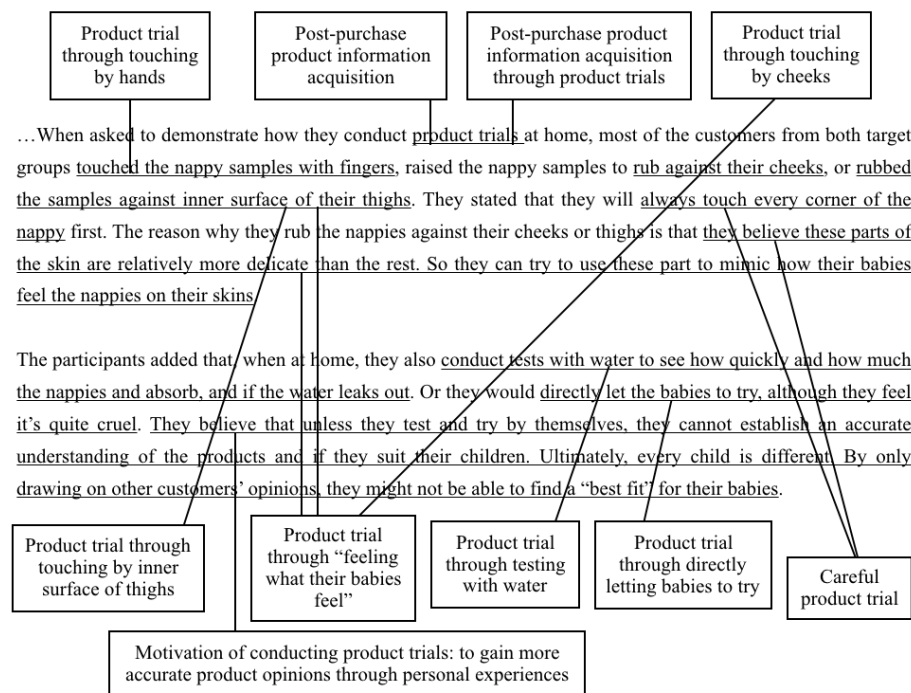


Figure 41: Excerpted researchers' notes about target customers' product trial activities as an approach of post-purchase product information acquisition [source: created in this study]





Figure 42: A photo taken from one of the focus groups main study sessions [source: created in this study]

#### **4.2.1[f] The significance of research design and facilitations**

The comparison between the results of the first and second rounds of the focus groups studies revealed the significance of research design and facilitations. First, the research design of the first round involved an elaborated set of VBR tools (see Figure 43). The findings suggested that it was difficult for a considerable number of customers to complete all sections of the tools, especially when the facilitator's professionalism was questionable. Consequently, limited informative insights could be defined from the collected data (see the last 4 columns in Figure 44). In comparison, the second round of study that simplified the VBR tools enabled the collection of significantly richer customer data (see Figure 21 in Chapter 3). From the data, the pilot project unlocked highly informative new customer insights that contributed to successful product innovation ideas (See Figure 45). However, it is noteworthy that the success of the second round of study was based on the learnings from the first round. In other words, the value of the first round focused on the provision of suggestions for research design enhancement.

Additionally, the improvements of research quality between the two rounds of studies revealed the importance of facilitations. For the pilot focus groups studies, an external facilitator was hired through the market research agency (see Section 3.3.4[a]), who did not demonstrate the capabilities of helping customers to provide meaningful and rich answers. Therefore, the researcher determined to play the moderation role in the focus groups main study. As the researcher was well prepared to be familiar with the research activities and was experienced in moderation, the focus groups sessions were conducted smoothly, which resulted in productive data collection. In consequence, sufficient responses from the participants were collected on the tools, while an extensive range of topics were discussed in the discussion parts in detail. These responses and discussions provided opportunities for informative customer insights development. In summary, the refinements of research design and facilitation significantly enhanced the research results.












ATTITUDES AND PERCEPTIONS Of TECHNICAL BENEFITS – “BREATHABILITY”			
IMPORTANCE		(4) HOW DO YOU RECOGNISE BREATHABILITY?	(5) WHEN DO YOU RECOGNISE ISSUES WITH BREATHABILITY?
(1)  What is the influence of <b>BREATHABILITY</b> on your selection of product?	WHY? _____  HOW? _____	A  HOW? VISUALLY WHY? _____ B  HOW? SMELL WHY? _____ C  HOW? LISTENING TO WHY? BABY/OTHER PEOPLE _____ D  HOW? TOUCH WHY? _____ E  HOW? COST WHY? _____	A WHEN CONSIDERING THE PRODUCT TO BUY  HOW?   B WHEN BUYING YOUR SELECTED PRODUCT  HOW?   C WHEN USING THE PRODUCT CHOSEN  HOW?   
(2)  What makes you believe the benefit of <b>BREATHABILITY</b> ?	WHAT? _____  HOW? _____		(6) WHERE DO YOU RECOGNISE BREATHABILITY? HOW IMPORTANT IS TO RECOGNISE BREATHABILITY IN THE FOLLOWING? 1= very important; 3= neither important nor unimportant; 5= being least important  A WHERE?  WHY? ON BABY 1- 2 - 3 - 4 - 5 B WHERE?  WHY? ON NAPPY 1- 2 - 3 - 4 - 5 C WHERE?  WHY? PACKAGE 1- 2 - 3 - 4 - 5 D WHERE?  WHY? WITH FRIENDS 1- 2 - 3 - 4 - 5 E WHERE?  WHY? ONLINE 1- 2 - 3 - 4 - 5 F WHERE?  WHY? TV 1- 2 - 3 - 4 - 5
(3)  How important is <b>BREATHABILITY</b> as a benefit?	RANKING 1= not important; 3= not important nor unimportant ; 5= very important 1 - 2 - 3 - 4 - 5 WHY? _____		

Figure 43: Research facilitation tool used in the focus groups pilot study (the page that addresses the technical benefit “breathability”) [source: created in this study]



Technical Benefit Recognition Summary					
Consumer Group: Mum 2					
BRAND	Brand B	TECHNICAL BENEFITS	HOW DO YOU BECOME AWARE OF THE TECHNICAL BENEFIT?	PRODUCT QUALITIES	HOW DO YOU BECOME AWARE OF PRODUCT QUALITIES?
FRONT   <					



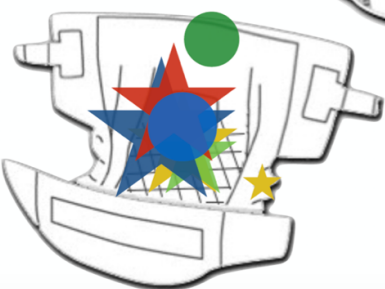
Technical Benefit Recognition Summary					
Consumer Group: Mum 2					
BRAND	Brand C	TECHNICAL BENEFITS	HOW DO YOU BECOME AWARE OF THE TECHNICAL BENEFIT?	PRODUCT QUALITIES	HOW DO YOU BECOME AWARE OF PRODUCT QUALITIES?
FRONT  BACK  INTERIOR 		<div>★</div> Breathability	<p>If</p> <ol style="list-style-type: none"><li>1) it is <b>THIN</b>,</li><li>2) it <b>HAS ENOUGH HOLES</b> on the surface or</li><li>3) the surface is <b>MESHY</b>,</li></ol> <p>it has <b>GOOD BREATHABILITY</b>. 86% of the feedbacks about THIN, 60% about HOLES and 100% about MESHES are <b>POSITIVE</b> Key issues: <b>A BIT HARD, TOO THICK, NOT ENOUGH AIR HOLES</b></p> <p>(Key area: interior, front, waist, side)</p>	<div>●</div> Surface finish	<p>They appreciate the <b>SOFTNESS</b> and <b>URINE DISPLAY</b> (convenient). 67% of the feedbacks of <b>SOFTNESS</b> and 80% <b>URINE DISPLAY</b> are <b>POSITIVE</b>.</p> <div>Key issues: not soft enough so the hand feeling is so so; one mum could not find the urine display</div> <p>Key area: front</p>
		<div>★</div> Sense of touch	<p>They appreciate the <b>SOFTNESS</b>. 86% of the feedbacks of <b>SOFTNESS</b> are <b>POSITIVE</b>.</p> <div>Key issues: <b>LEG AREA OR STICKERS ARE HARD, CAN HURT BABY'S SKIN</b></div> <p>(key area: front, back, interior)</p>	<div>●</div> Material quality	<p>If it is <b>SOFT</b>, they consider the quality of material is good. 73% of the feedback of <b>SOFTNESS</b> are <b>POSITIVE</b>.</p> <div>Key issues: a bit hard at the stickers, which can hurt baby's skin.</div> <p>Key area: interior; back</p>
		<div>★</div> Absorbency	<p>If</p> <ol style="list-style-type: none"><li>1) the interior is <b>EVEN</b>;</li><li>2) the interior has <b>GRIDS/NETS/MESHES</b>;</li><li>3) it has <b>HOLES</b>;</li><li>4) it absorb a lot or fast in the <b>EXPERIMENTS</b>;</li></ol> <p>they consider it has good absorbency. 100% of the feedback about the key factors above are <b>POSITIVE</b>.</p> <p>Key areas: interior</p>	<div>●</div> Aesthetics	<p>They appreciate the <b>CUTE CARTOON PATTERNS, COLOUR MATCHING</b> and <b>CURVE</b>.</p> <p>Key area: front, back</p>
		<div>★</div> Odour	<p>They like when it has <b>NO ODOUR</b>. 17% of the feedbacks are <b>NEGATIVE</b>.</p> <p>Key area: interior</p>	<div>●</div> Design features	<div>Key issues: They like the <b>ELASTIC DESIGN</b> of the waist area.</div> <p>Key area: waist area</p>

Figure 45: Synthesis of “Mum2” customers’ responses to the VBR tools in the focus groups main studies regarding product needs [source: created in this study]



#### 4.2.1[g] Geographic restrictions

In comparison with the text-mining studies, the focus groups investigations involved a narrower scope of participants. The text-mining studies were conducted online. They did not require the data providers to be in a specific location. On the contrary, the face to face focus groups studies were conducted in Beijing, which means it involved representative sample groups in one location. Conducting the study in multiple locations was not possible due to limitations of budget, time and labour availability. However, it was anticipated that this location restriction could be easily eliminated through bringing the focus groups study online in future projects.

#### 4.2.1[h] The improved depth of insights

On the contrary to the SM text-mining studies that utilised existing customer generated contents on SM, the focus groups studies enabled the collection of tailored data. It was because the focus group approach allowed the ask of tailored questions and the applications of specially designed VBR tools to explore the research questions, whereas the SM text-mining studies were restricted by what data already existed. In addition, the direct communications between the facilitator (the researcher) and customers that happened in focus groups enabled more in-depth insights to be unlocked (see Section 4.2.1[e]). It was because the facilitator (researcher) could ask customers follow-up or “Why” questions (see Figure 46), as well as could observe the customers’ facial expressions, tones of speaking, and physical languages (see Figure 42).

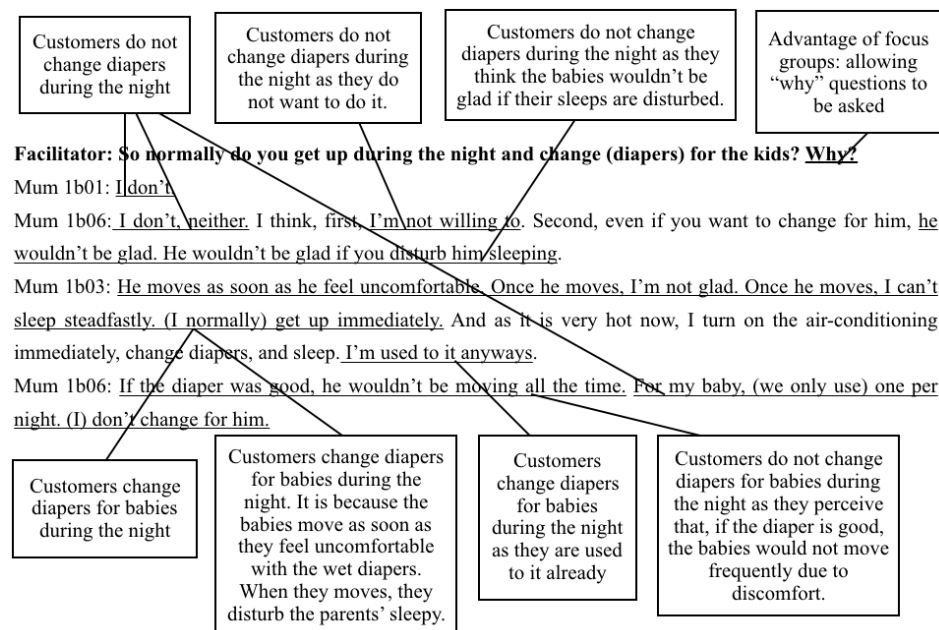


Figure 46: Excerpted focus groups transcripts demonstrates that in-depth customer insights can be defined through asking follow-up or “why” questions [source: created in this study]

#### **4.2.1[i] Incremental innovation ideas as the results of the focus groups research**

Similar to the SM text mining, the focus groups studies provided insights for incremental product improvement, instead of radical innovation. This was expected as a result of the research design and Firm A's expectation. The focus groups sessions were designed to identify customers' opinions about the Case Firm A's products and the competitors. The expectation of Firm A was to identify customers' satisfactions and dissatisfactions of diaper products to inform the development of new product opportunities through product improvements instead of disrupting the product landscape.

The incremental innovation ideas (including to improve the smoothness, the shape of waist sticker, and the hardness of waist sticker which were based on findings of "Mum 2" customers' needs, see Figure 45) enabled Firm A to launch a new product line, which tripled their revenue in the next year.

#### **4.2.1[j] Customer centricity**

The focus groups studies demonstrated a high level of customer centricity. Throughout the study, the research activities focused on the identification of customer needs insights through investigating their opinions and behaviours. The existing product technical benefits identified by Firm A were merely adopted as stimuli for customer information collection. In other words, the aim was not to collect customers' comments on existing product technical benefits, but to use the technical benefits as stimuli to discover customers' unmet needs. As a result, unfulfilled needs were identified, which provided opportunities for product (see Section 4.2.1[i]). Therefore, this research activity could be viewed as customer-centred.

#### **4.2.2 Findings about young Chinese diaper customers' customer-decision-journeys (CDJs)**

This section presents the second area of findings gained from the focus groups study – findings about young Chinese diaper customers' CDJs. The findings were mainly gained through analysing focus groups participants' responses to the VBR tool (see Figure 47) and transcripts of the follow-up group discussions (see Figure 36 for a sample page). More specifically, a descriptive statistics was applied to identify initial results of the frequencies of forum visits/posting, e-commerce visits/posting, peer recommendation seeking, and conducting execution experiments of each segment, for instance (see Figure 48 and Figure 49 for examples). As the researcher is specialised in qualitative studies instead of quantitative research, (s)he actively sought assistances from

academic services in the university through one-to-one consultations. However, as the study was designed to be qualitative, while participants responses to the VBR tool mainly served as conversation starters of the follow-up group discussions, the researcher intentionally leveraged the focus groups transcripts and some field notes to corroborate the descriptive statistics findings. A summary of data is exhibited in Table 16 below.

Research methods	Data collected	Research questions addressed
Face-to-face focus groups with the support of VBR tools (pilot and main studies)	<ul style="list-style-type: none"> <li>• 36 sets of VBR tools completed by 36 participants of the main study (see Figure 47)</li> <li>• 93 pages of transcripts from the main study that includes 6 focus groups sessions (see Figure 36)</li> <li>• 7 pages of notes taken by the researcher in pilot and main studies (see Figure 61)</li> </ul>	Research question 2 and sub-questions

Table 16: Summary of data of the parts of focus groups studies that address the first research question and sub-questions

Figure 47: The research tool with responses from one participant in the focus groups main studies [source: created in this study]

SEGMENT	MUM	AGE OF THE BABY (months)	FORUM	FREQUENCY		TECHNICAL BENEFITS					PRODUCT ATTRIBUTES				PRODUCT INFO																
				OF VISIT	OF POSTING	ABSORBENCY	BREATHABILITY	ODOUR WHEN OPENING PACKAGES	ODOUR DURING USAGE	SENSE OF TOUCH	SURFACE FINISH	MATERIAL QUALITY	AESTHETICS	UNIQUENESS	COST- PERFORMANCE	PRICE	PRODUCT RATINGS	RECOMMENDATIONS	POSITIVE REVIEWS	NEGATIVE REVIEWS	PRODUCT DISPLAY VIDEOS										
PG1 Mum 2	2a01	21	Mamabang	1	1	3	3	1	1	3	0	3	0	3	3	1	3	3	3	1	0										
	21	21	Babytree	2	1	3	3	1	1	3	1	3	1	3	3	3	1	3	3	1	1										
	2a02	19	Babytree	3	2	3	3	3	3	1	1	3	0	3	1	1	3	3	3	1	1										
	19	19	Mamabang	2	2	3	3	3	3	1	1	3	0	3	1	1	3	3	3	3	1										
	2a03	13	Babytree	3	1	3	3	3	3	3	1	1	1	1	0	0	3	3	3	3	3										
	13	13	Mamabang	3	1	1	1	1	1	1	1	1	1	1	0	0	3	3	3	3	3										
	2a04	9	Babycare	2	0	3	3	0	0	3	3	3	0	1	3	3	3	3	3	3	1										
	9	9	Babytree	2	2	3	3	1	1	3	3	3	1	3	3	1	3	3	3	3	1										
	2a05	10	Babytree	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3										
	10	10	Yaolan	2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1										
PG4 Mum 2	2b01	6	55BBS	2	2	3	3	1	1	3	3	1	0	1	3	1	3	3	3	3	1										
	2b02	10	Babytree	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3										
	2b03	10	Babytree	3	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0										
	2b04	24	Yaolan	2	2	3	3	3	3	3	1	1	1	1	0	1	1	3	1	1	1										
	24	24	Babytree	2	2	3	3	3	3	3	3	3	3	3	0	0	3	1	1	1	1										
	2b05	18	Beijing Mama	2	2	3	3	1	1	0	0	1	0	3	3	0	3	3	3	3	3										
	18	18	Babytree	2	2	3	3	1	1	0	0	1	0	3	3	1	3	3	3	3	3										
	2b06	18	55BBS	2	2	3	3	1	1	0	0	1	0	3	3	1	3	3	3	3	3										
	7	7	Babycare	3	2	3	3	1	1	3	3	3	0	3	3	3	3	3	3	3	1										
	7	7	Sina	2	1	3	3	1	1	3	3	3	0	3	3	1	3	3	3	3	1										
PG5 Mum 2	2c01	20	Mama.com	1	1	1	3	1	0	3	1	3	1	1	3	3	1	3	1	1	0										
	2c02	16	Babycare	2	1	3	1	1	3	3	3	3	1	1	3	3	3	1	3	1	3										
	2c03	17	Babytree	2	2	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	1										
	17	17	Babycare	2	2	1	1	1	1	1	0	1	1	1	1	1	1	3	3	3	1										
	17	17	Yaolan	2	2	1	1	1	1	1	0	1	1	1	1	1	3	3	3	3	1										
	2c04	11	Babycare	2	1	1	1	1	1	1	1	3	1	3	1	1	3	3	1	1	3										
	2c05	10	Babytree	3	3	3	3	3	3	3	1	1	0	1	3	3	3	3	3	3	1										
	2c06	5	Babytree	2	2	1	1	0	0	0	0	0	1	1	0	0	3	1	0	1	0										
	5	5	Babycare	2	1	1	1	0	0	0	0	0	1	1	0	0	3	1	0	1	0										
					76	57	81	81	52	55	68	51	69	23	71	68	37	89	87	74	68	44									
				2.4	2.4	1.5	1.6	2.0	1.5	2.0	0.7	2.1	2.0	1.6	2.6	2.6	2.2	2.0	1.3												
Percentage of ALWAYS/SOMETIMES/NEVER regarding each TB, PA and PI:				71	71	32	38	59	38	56	9	56	59	38	82	79	68	56	26												
				26	26	56	47	24	35	35	41	41	24	41	15	18	15	32	50												
				3	3	12	15	18	26	9	50	3	18	21	3	3	18	12	24												
13	18	Babytree	72	38	62	0	8	77	15	69	77	54	54	62	38	84	23	54	54	31	85	77	69	54	31	17					
		Babycare	39	14	86	0	14	86	0	57	43	14	29	87	57	71	0	43	57	43	86	71	57	43	29	13					
		Yaolan	22	25	75	0	25	75	0	50	50	50	50	50	50	25	25	0	25	25	50	50	25	25	0	19					
		Mamabang	17																												
Info channel RANKING Mum1				Info channel RANKING Mum2				FORUMS Mum1				FORUMS Mum2				E-COMMERCE Mum1				E-COMMERCE Mum2				RECOMMENDATIONS Mum1				RECOMMENDATIONS Mum2			

Figure 48: Descriptive statistics analysis of the “Mum 2” segments’ responses about parenting forums in the three focus groups sessions  
[source: created in this study]

Mum number/Focus Group	Mum Segment	Age of the baby (months)	Forums	E-Commerce	Recommendations	Experiments	Mum number/Focus Group	Mum Segment	Age of the baby (months)	Forums	E-Commerce	Recommendations	Experiments
FG1 Mum 2a01	Mum2	21	3	4	1	2	FG2 Mum 1a01	Mum1	23	1	2	4	3
FG1 Mum 2a02	Mum2	19	2	4	1	2	FG2 Mum 1a02	Mum1	5	2	3	1	4
FG1 Mum 2a03	Mum2	13	2	4	1	3	FG2 Mum 1a03	Mum1	6	1	4	3	2
FG1 Mum 2a04	Mum2	9	3	4	1	2	FG2 Mum 1a04	Mum1	10	4	2	1	3
FG1 Mum 2a05	Mum2	10	3	4	2	1	FG2 Mum 1a05	Mum1	12	4	3	1	2
FG1 Mum 2a06	Mum2	23	2	4	1	3	FG2 Mum 1a06	Mum1	10	3	4	2	1
FG4 Mum 2b01	Mum2	6	3	4	1	2	FG3 Mum 1b01	Mum1	16	2	4	1	3
FG4 Mum 2b02	Mum2	10	2	3	1	4	FG3 Mum 1b02	Mum1	12	1	3	2	4
FG4 Mum 2b03	Mum2	10	3	2	1	4	FG3 Mum 1b03	Mum1	16	3	1	2	4
FG4 Mum 2b04	Mum2	24	4	1	3	2	FG3 Mum 1b04	Mum1	10	2	4	1	3
FG4 Mum 2b05	Mum2	18	2	3	1	4	FG3 Mum 1b05	Mum1	14	2	1	3	4
FG4 Mum 2b06	Mum2	7	2	4	3	1	FG3 Mum 1b06	Mum1	8	1	3	2	4
FG5 Mum 2c01	Mum2	20	2	4	1	3	FG6 Mum 1c01	Mum1	9	1	4	3	2
FG5 Mum 2c02	Mum2	16	3	4	2	1	FG6 Mum 1c02	Mum1	9	2	4	1	3
FG5 Mum 2c03	Mum2	17	4	2	1	3	FG6 Mum 1c03	Mum1	18	2	3	1	4
FG5 Mum 2c04	Mum2	11	3	4	1	2	FG6 Mum 1c04	Mum1	12	2	3	1	4
FG5 Mum 2c05	Mum2	10	1	4	2	3	FG6 Mum 1c05	Mum1	20	1	2	3	4
FG5 Mum 2c06	Mum2	5	4	2	3	1	FG6 Mum 1c06	Mum1	18	1	4	2	3
			48	61	27	43				35	54	34	57
Overall ranking: Recommendations -> Forums -> Experiment -> E-commerce							Overall ranking: Recommendations -> Forums -> E-Commerce -> Experiment						
1= the most important							1= the most important						
4=the least important							4=the least important						

Figure 49: Descriptive statistics analysis of the “Mum 1” and “Mum 2” segments’ rankings of the importance of the four product information exchange channels – “parenting forums”, “E-commerce”, “peer recommendations” and “experiments” (see the following sections for more information) [source: created in this study]

#### **4.2.2[a] Summary of findings about Target Customers' SM-centred CDJ**

The data reveals that consumers' information exchange activities in the CDJ are centred at SM (see Figure Figure 44 in Section 4.2.1[f]). Consumers extensively search product related opinions and experiences of "strangers" on SM or exchange knowledge with friends via SM. While consumers do utilise demonstrations in physical stores or product descriptions on the page of products on e-commerce sites as information sources, they tend to prefer third party opinions on SM as it is "non-biased". Television or other forms of advertisement pushed by the producer were not considered as an information source. However, it is not to conclude that advertisement or traditional market launch activities pushed from the producers to consumers are entirely absent from the CDJ. The consumers did mentioned about several brands' TV advertisements, though did not consider them as information sources. As literatures suggested, these advertisement might still play a role in the construction of consumers' initial consideration set (Edelman, 2010; Edelman, 2010). Specific findings are documented in following texts.

#### **4.2.2[b] Different emphasises on the information between the two customer segments**

The 2 target groups' responses to the research tools demonstrated differences and commonalities in their information search patterns on social media. For example, the data indicated that "Mum 2" tend to generally acquire information provided by peer consumers ("product ratings", "detailed product reviews", "positive reviews", and "negative reviews") more than other signals on both forums and e-commerce sites (see Figure 50 & 51). While "price" was not revealed to be significant, they did moderately value "cost-effectiveness" information of the products. On the contrary, the responses of "Mum 1" displayed their focus on cost related information ("price" and "cost effectiveness"). They also frequently looked at "product rating" provided by other consumers but did not tend to read "detailed product reviews". Findings from the pilot study reflected that peer consumers' opinions are significant for both groups (see Figure 44 in Section 4.2.1[f]). However, the "Mum 2" group usually investigated the product knowledge more in-depth for decision making, whereas "Mum 1"'s inquiry remained on the tactic level. It probably suggested that "Mum 2" was not satisfied for merely knowing which products were better but also necessitated to know why. "Mum 1" were more pragmatic, in comparison. They could make a decision after discovering the more advantageous products from peers with merely an examination of the costs. Official promotional videos that showcase product functions were demonstrated to be not frequently searched for across both groups. It was probably because consumers tend to

assign significantly higher credibility to information from peers than that from the producers or retailers.

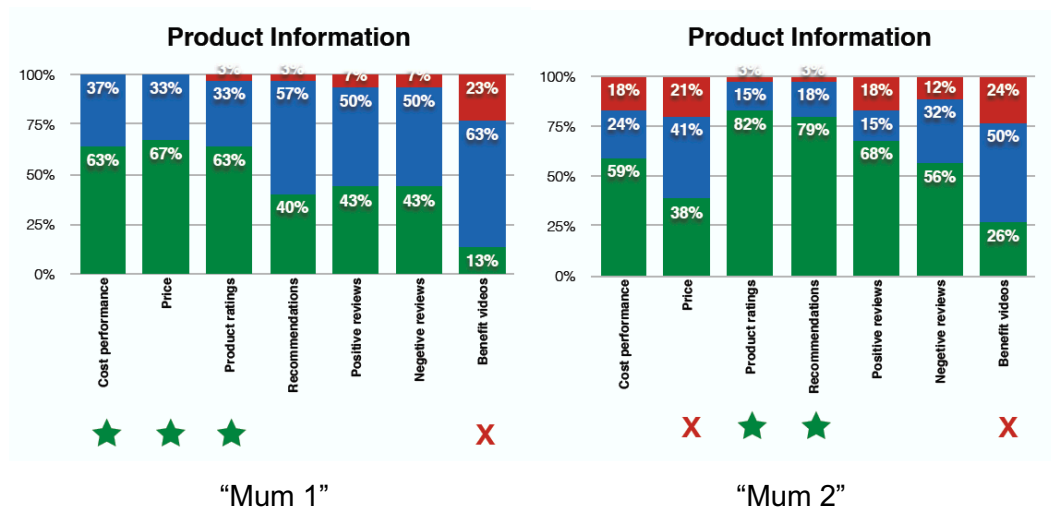


Figure 50: Example results of descriptive statistics analysis of the 2 segments’ responses about online parenting forums [source: created in this study]

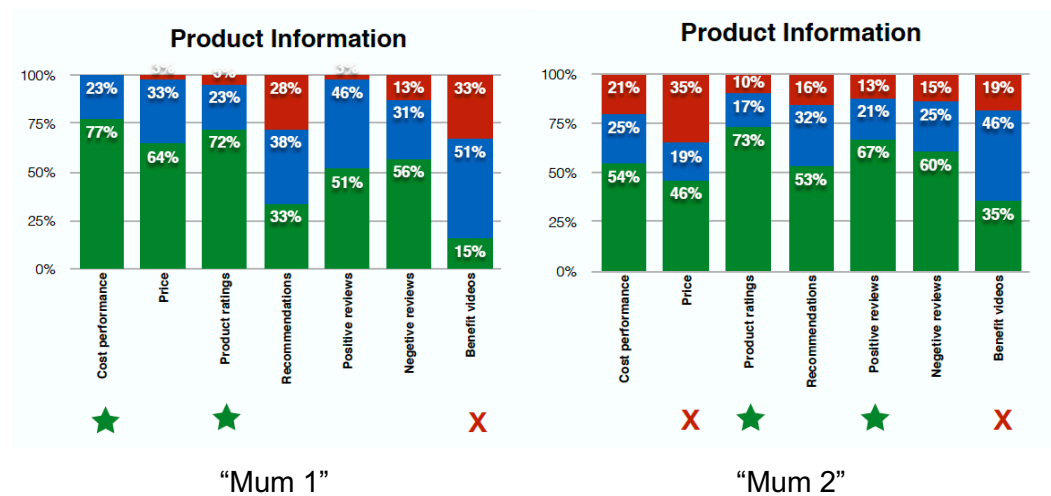


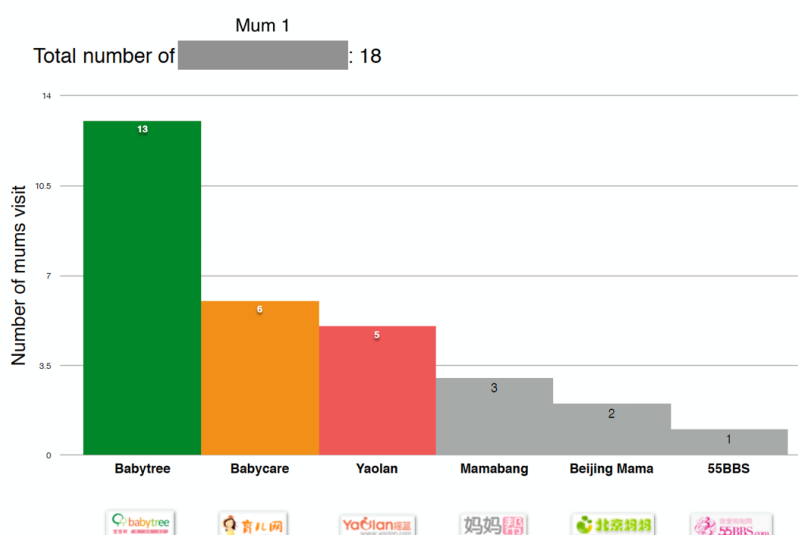
Figure 51: Example results of descriptive statistics analysis of the 2 segments’ responses about e-commerce sites [source: created in this study]

#### 4.2.2[c] Same preferences of SM platforms between the two customer groups

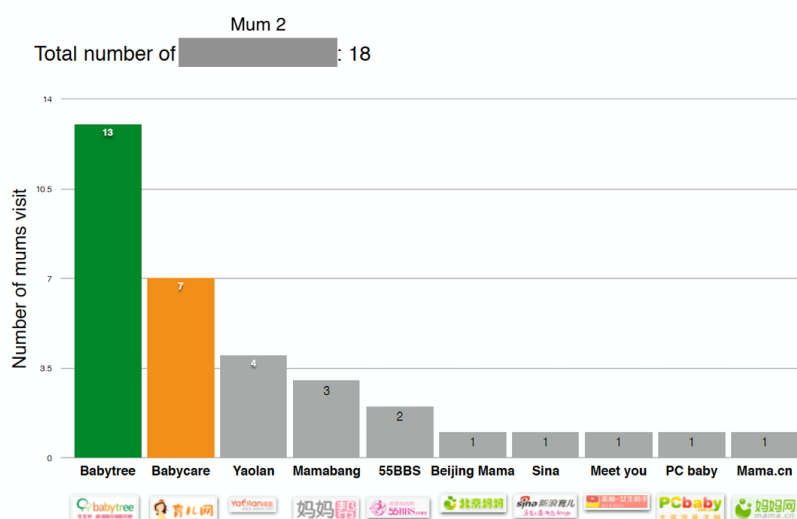
Both customer groups favoured online parenting forums, e-commerce sites, or more private SM platforms as information sources or communication channels (see Figure 44 in Section 4.2.1[f]); see more details in the next section). They usually consulted and trusted both friends and “strangers” online (see more details in Section 4.4.2[h]). They enjoy the convenience of using “WeChat” or “QQ” group chats (WeChat, 2017; QQ International, 2017) or the “Moment” function of “WeChat” (Tencent, 2015) (similar to a

Facebook Newsfeed (Facebook, 2017) SM applications to contact friends. As they mainly adopt “WeChat” and “QQ” for the communication with friends, these two SM platforms were classified into the “Friends’/peer Recommendations” category of information source in the study. On the other hand, the customers acquired strangers’ opinions mainly through browsing online parenting forums “Babytree.com” (Babytree.com, 2017; Alexa, 2017), and e-commerce site JD.COM (JD.COM, 2017; Alexa, 2017) (see Figure 52). Their motivations of acquiring information from “strangers” online are twofold: A).they can have access to a great volume of contents that can respond to almost all their questions; B).they perceive peer customers’ real-life experiences to be remarkably informative that can assist them to know about and choose products (See Figure 53 and 54).

### Overview of Forums Visited - Mum 1

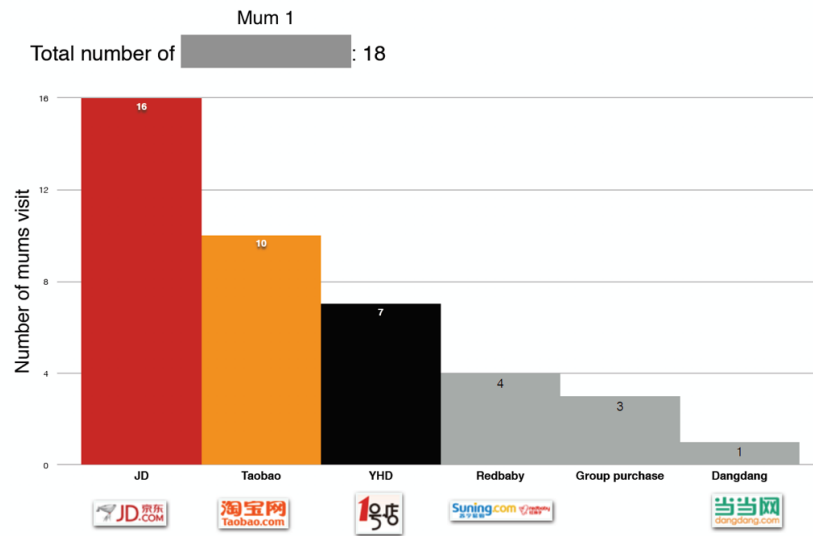


### Overview of Forums Visited - Mum 2





### Overview of E-commerce Sites Visit - Mum 1



### Overview of E-commerce Sites Visit - Mum 2

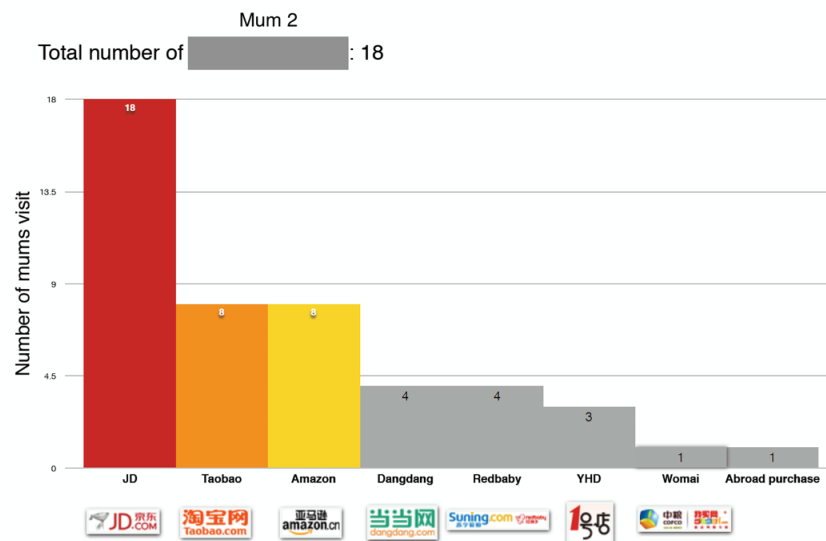


Figure 52: Descriptive statistics analysis that demonstrates the popularity of Babytree.com and JD.com among target customers [source: created in this research]

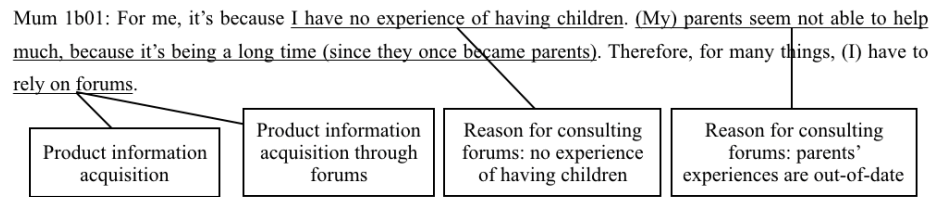


Figure 53: Excerpted focus groups transcripts that demonstrate one of the reasons why customers acquire information on forums [source: created in this study]

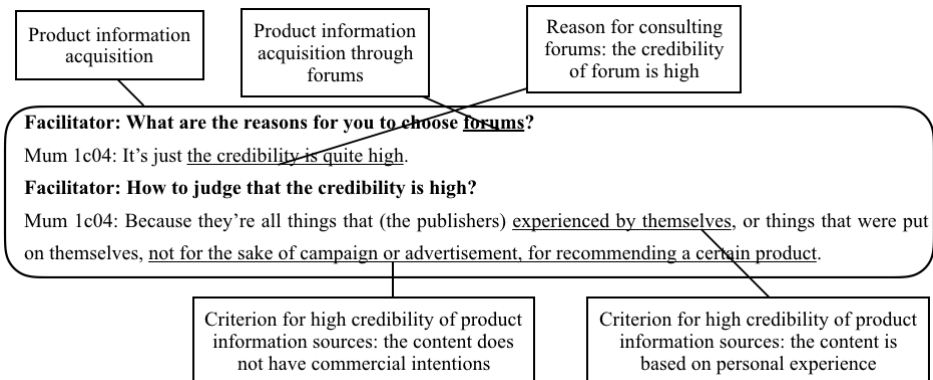


Figure 54: Excerpted focus groups transcripts that demonstrate customers' perceived association between personal experience sharing and credibility of forum posts [source: created in this study]

#### 4.2.2[d] The two groups' different motivations of product learnings that resulted in different decision making periods

The focus group participants' responses to the group discussion questions indicated that the frequency of their information search activities remain high within the first six months after their children's birth. Hence, the six-month was defined as "trialling period".

However, behavioural difference can be identified between the two groups (see Figure 55). For "Mum 1", although intense information acquisition activities continued, decisions of focusing on purchasing one product line of one brand are usually made early in the infancy period (the first twelve months following birth-giving). Normally, they solely examined a narrow range of products and quickly selected their favourite one for all future purchases (see Figure 56). The purpose was simply the identification of the suitable product for their children.

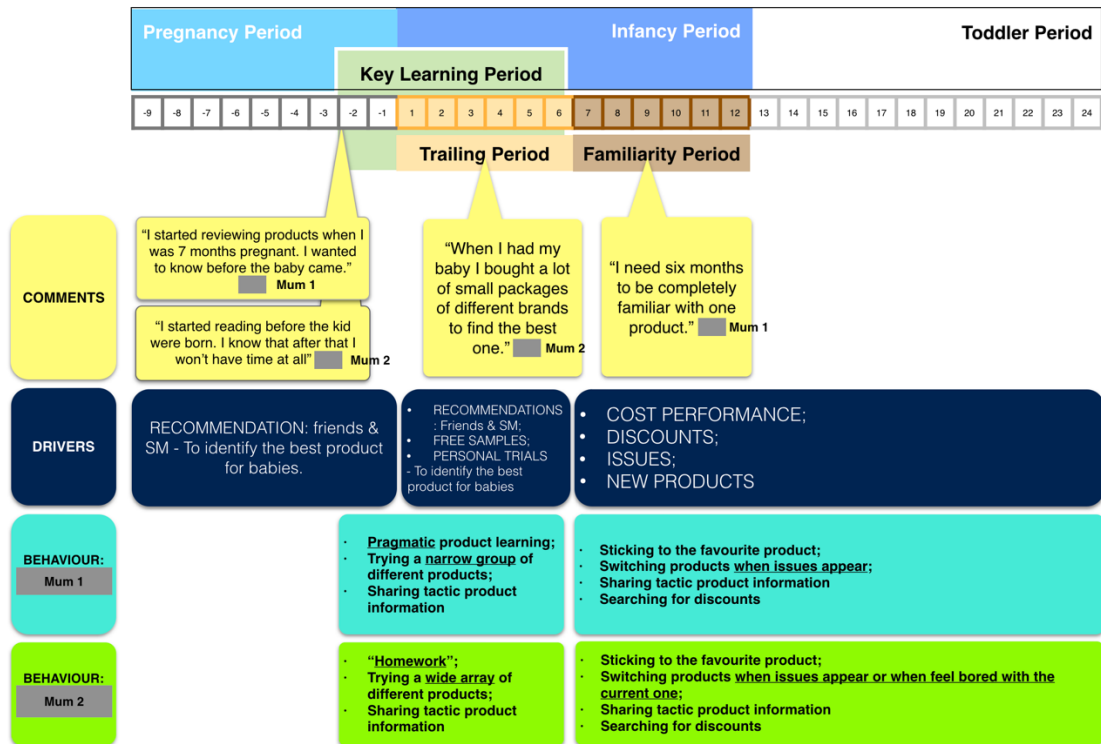


Figure 55: Analysis and synthesis of focus group discussion transcripts data about the target customers' decision making timeline and behaviour [source: created in this study]

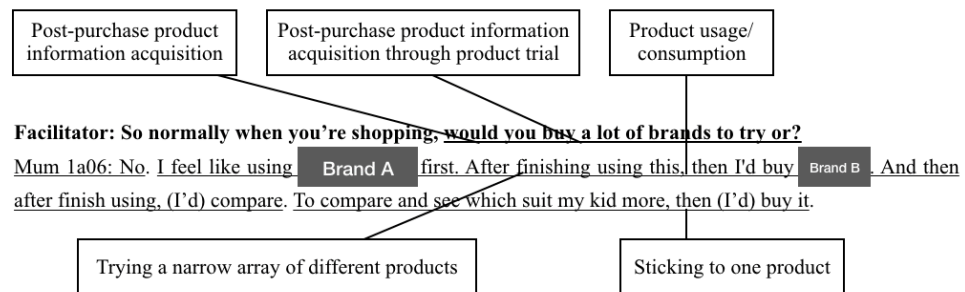


Figure 56: Excerpted focus groups transcripts about "Mum 1" merely tried a narrow array of products [source: created in this study]

"Mum 2", on the contrary, tended to spend more time in the trialling period to consult others and to try a greater variety of products before making the decision to narrow down to one product line. "Mum 2" stated that they devoted their time, mainly in the late evenings after escorting their children to sleep, when breastfeeding, when the children are playing, and when others are looking after the babies, to read expert customers' sophisticated product reviews (mainly on Babytree.com) in-detail and from top to bottom (see "Homework" activities of "Mum 2" in Section 4.2.2[e]). They admitted that these reviews provided sufficient product information for product selection decision making.

However, the motivation of letting their children to try different products remained at a high level. Their responses indicated two reasons that result in this behaviour. The first reason was the interest of developing product expertise (see Quote F in Table 17). As they believed that direct experience was more trustworthy (see more descriptions in ‘*Post-purchase Product Information Acquisition*’ of Section 4.2.2[g]), they perceived personal experience to be a more valuable contribution to their knowledge bank than others’ opinions. Secondly, they also expressed the intrinsic interest of trying different products. For example, some “Mum 2” participants even stated that, sometimes they switched the products because they were “bored” with the one in use (see Figure 55 and Figure 57). This finding implied that “Mum 2”’s learnings of and selections between distinctive products were not solely driven by their willingness of “giving their children the best”, but also their own personal interests. The interests include product expertise development and the escape from boredom from one product. In this situation, product information acquisition and product trials appeared to be a hobby beyond its pragmatic meaning.

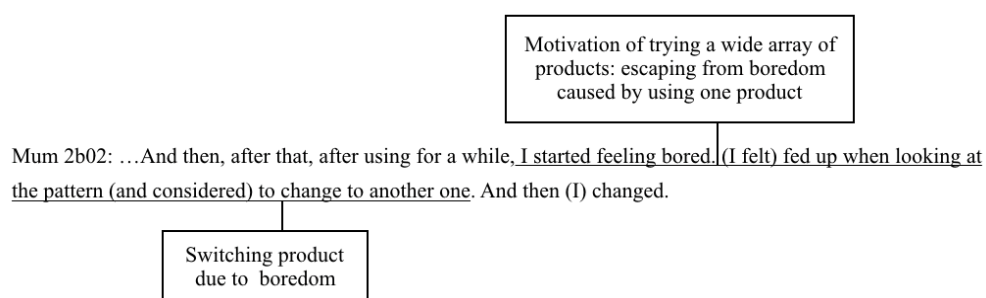


Figure 57: Excerpted focus groups transcripts about “Mum 2”’s boredom from using one product [source: created in this study]

Their responses indicated that, in average, the amount and intensity of information search of both groups decrease after their children reach 6-month-old. However, as the study were designed to be largely qualitative, the statistical statement, like “average”, was solely indicative. The purpose was not to provide quantitatively statistical inferences. This indication can be utilised as a preliminary finding to inform the design of potential future quantitative survey investigations.

#### 4.2.2[e] Target customer groups' information exchange activities in the SM-centred CDJs



Figure 58: Target customer groups' five information exchange activities in the SM centred CDJs [source: created in this study]

##### ***Tactic product information acquisition:***

Four product related information exchange activities on SM were identified from the focus groups studies (see Figure 58 and Table 17 at the end of this section). First, both segments of consumers stated that they acquire product related information from other peer customers through SM. More specifically, both "Mum 2" and "Mum 1" seek information to assist purchase decision making through either looking for existing contents online or posting questions and seek for answers.

##### ***"Homework" activities of "Mum 2":***

In accordance with the data, "Mum 2" conducted expertise development-driven information acquisition (see Table 17). They referred to this activity as "homework". Carefully reading long reviews posted by peer customers, conducting experiments by themselves, asking friends for advice, and attending pregnancy/parenting courses constituted the main actions of "homework" activities (see Figure 59). One "Mum 2" stated that she sometimes even printed out these forum posts with all comments for careful reading (see Figure 60).

Typically, "homework" activities commenced at least two months before birth-giving (see "comments" in Figure 55). The importance of "homework" activities to "Mum 2" can be interpreted from their performances in the focus groups sessions. When communicating with "Mum 2" customers, the researcher observed a remarkable level of enthusiasms among them when they narrated "homework" experiences (see Figure 61). They automatically started building on each other's narratives with details. To summarise, while "Mum 1" were satisfied as long as they can select product based on the obtained

homework

**Facilitator: Then, through which channels do you do homework?**

Mum 2a04: One (channel) is forum.

Mum 2a05: Also mums' classes. (I) go to take courses for expectant mothers. I don't know about other hospitals, but they should all have them.

Mum 2a04: All have.

Mum 2a05: 海扶 is like that. Once (one) registers for a card, (she/he) can go to take the course nearby.

Mum 2a01: I wandered around when I was pregnant. I wandered around baby shops and have a look at all products my baby will use later. Or I would buy something in advance.

Mum 2a02: Like what she said. I was like that before giving birth. I have a card, which was passed on generation after generation. It was a Word document circulated online. For example, if the sisters (female friends) gave birth before me, one would send it to the other, and the one before me would pass it on to me after amending it a little bit...

**Facilitator: What else? Any other homework to do during pregnancy?**

Mum 2a04: Homework, mainly doing experiments.

Product information acquisition

homework

Reading carefully

**Facilitator: Everybody, normally when reading posts, would you read especially carefully?**

Mum 2b05: Anyway, for me, yes. For the ones I really care about, I read especially carefully. It means that, for more than 100 pages, I wish I could flip over page by page. I wish I could flip over page by page, until I turn to the end.

**Facilitator: (You would) read everything, even comments?**

Mum 2b05: Yes. And sometimes, I would copy it and paste it to a Word file, and print it out.

Overall, Mum 2 more patiently provide longer and more detailed answers to my questions. They elaborate on each others' statements. The responses are rich. The style of speaking was enthusiastic. In contrast, Mum 1 needed much more facilitations to provide specific answers. They usually express "why is this worth asking?" or "it's so obvious". Another interesting detail was that, while Mum 1's were more quiet than Mum 2, they tended to consume larger number of snacks on the table than Mum 2.

```

graph TD
    A[Proactivity of Mum 2] --- B[more patiently]
    C[Mum 2's enthusiasm of "homework"] --- D[enthusiastic]
    E[Passiveness of Mum 1] --- F[more quiet]
    G[Pragmatism of Mum 1] --- H[they tended to consume]
  
```

**Both customer groups provided tactic product information on SM platforms:**

In addition to product related information acquisition, both groups of customers also contributed their opinions or experiences on social media platforms. They usually provided tactic product information to others based on personal experiences (See “Quote G” in Table 17). Although “Mum 2” customers learn and develop product expertise beyond tactic product information, they did not tend to share it to SM platforms.

Three motivations that trigger their information contribution actions can be concluded from their statements. The first motivation was to help others (See Quote G in Table 17). They normally answered other customers’ questions for trouble shooting or advice seeking on forums or in WeChat and QQ groups if they owned relevant experiences. One interviewee described an example of a shared word document that was collectively drafted by different customers (see Figure 62). After receiving the document, each consumer would add on their own advice or opinions in the relevant sections, and pass the updated version to others. Although it was not a typical example of forum posts or other SM interactions, it was a vivid evidence of their motivation to provide help.

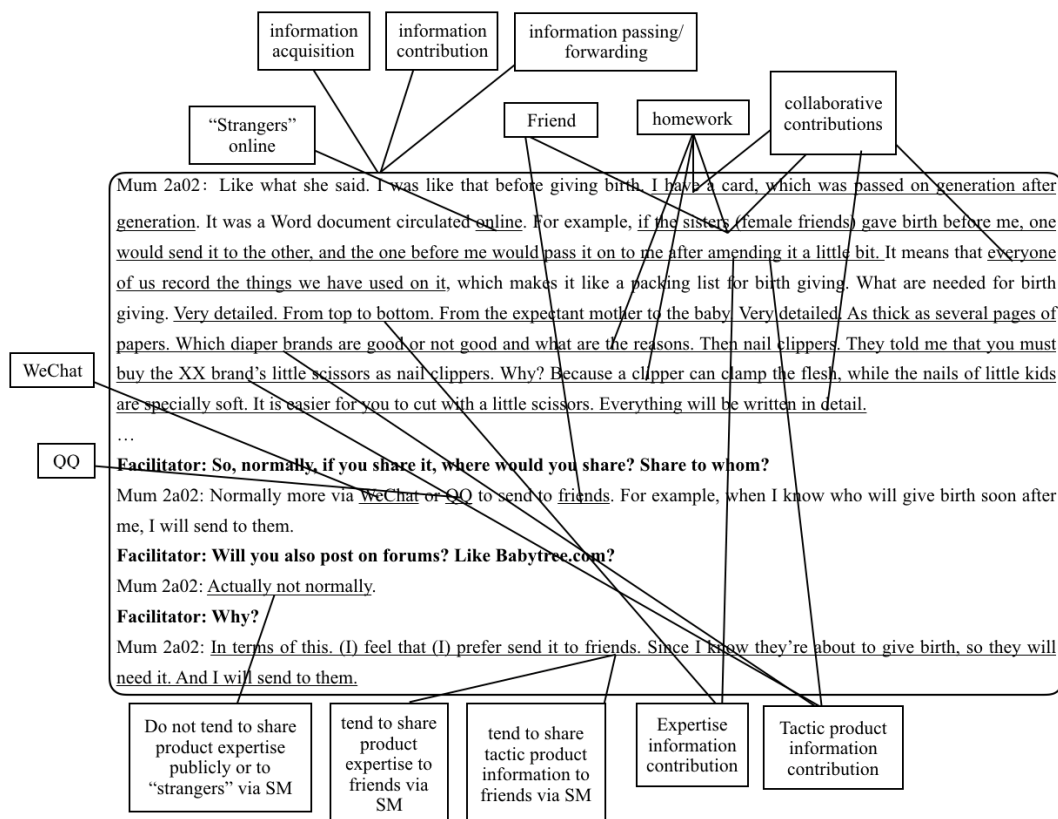


Figure 62: Focus groups transcripts that demonstrate customers' volunteer actions of assisting peers [source: created in this study]



In addition, responses from the two customer groups demonstrated that negative product usage experiences provoke them to publish product related information (see Figure 63). The consumers feel responsible to raise the awareness of others of the potential usage risks. Usually, they leave product ratings and a brief review on e-commerce site about their negative experiences. The researcher related this finding to the results of the first round of text-mining, in which positive product reviews of Firm A's product significantly outweighed negative reviews. Two hypothetical reasons could have caused the phenomenon. The first assumption was the performance of Firm A's products are generally positive, whereas the second could be that there were biased product reviews existing. This consideration encouraged the researcher to be cautious with the text-mining findings, while pay extra attention in identifying customer needs using the focus groups studies (see relevant findings in Section 4.2.1).

The third motivation for product information contribution was expressed by "Mum 1" in the focus groups (See Quote C in Table 17). The transcript indicated that incentives, like redeemable points, motivated customers to contribute product information on SM.

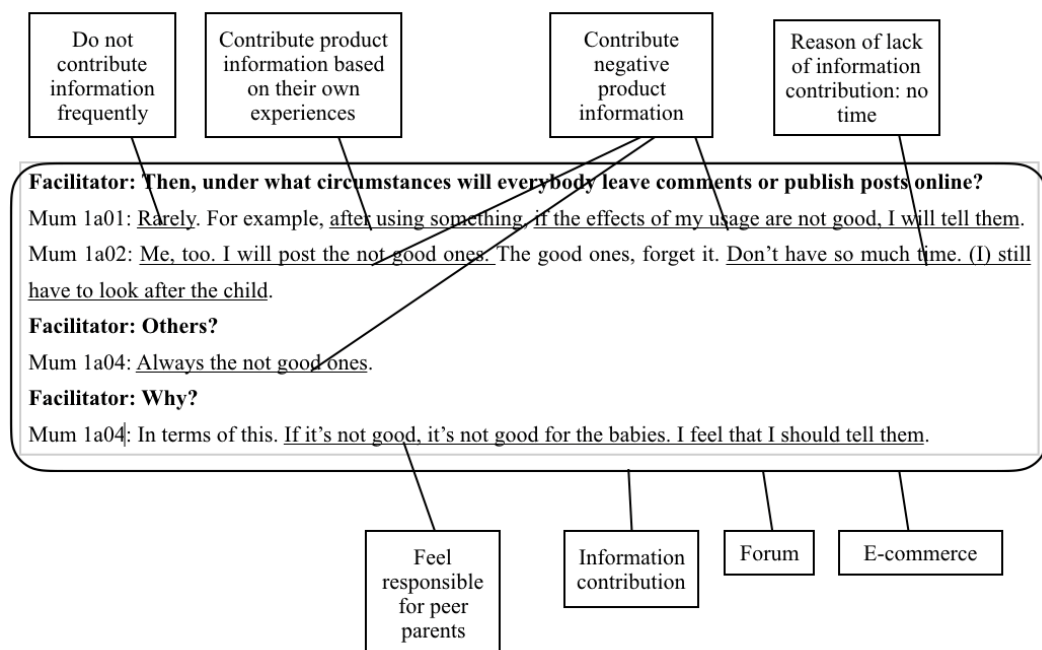


Figure 63: Focus groups transcripts indicate consumers' motivations of contribution of negative product information [source: created in this study]

### ***Lower motivations of information contribution than information acquisition***

Both groups of participants' responses to the research tools (see Figure 64 – 66) and answers to the group interview questions revealed that the frequency and motivation of their information contribution activities was significantly lower than information



acquisition activities. They provided three reasons for this behaviour pattern (See Quote H in Table 17). First, posting detailed product reviews are time consuming, whereas most of them have full-time professional career and take the major responsibility of childcare in the households. Therefore, they claimed that they lack spare time to contribute elaborated product reviews. Second, they perceive that a great volume of peer provided product information are already existing and accessible on SM. It made them question the need to provide more information. The third reason is the demotivation caused by lack of responses from others to their posts. One “Mum 2” complaint that, when they are aspired to share their detailed experiences or expertise on forums, very few comments were received (see Quote H in Table 17). In this case, they prefer to share these experiences to friends on “WeChat Moment”, as they are certain that friends would at least click “like” (Tencent, 2015).

#### ***Method to encourage “Mum 2” to share expertise information***

One detail provided by one “Mum 2”, which involved another three participants’ discussions, attracted the attention of the researcher (see Figure 67). Although it was not a commonly shared answer between the majority of the segment, it provided implications of the conditions to drive the contribution of product knowledge or experiences of this target group. In accordance with the interviewee, the condition was a redeemable points collection system based on the number and quality of their forum posts. If their posts can result in points, which could be converted into discounts or promotions for online product purchase, they would be more motivated to invest time and energy in crafting them. This disclosure inspired the researcher to question if the provision of incentives or rewards can encourage “Mum 2” to contribute expert knowledge. As discussed above, consumers do have willingness share product knowledge, give warnings of negative product qualities, and to earn social recognition. However, the demand of time investment and the potential lack of responses from the community hindered them from sharing long product reviews.

The benefit of the increase of expert customer knowledge sharing is twofold. First, it is beneficial for “Mum 2” as they rely on this type of SM contents to select product. Second, it means that the nappy producers could have access to a higher volume of comprehensive and in-depth customer knowledge. It could be valuable information that assist the producers to understand the customers’ perceptions or needs of the products better.

This condition also implied the existence of a different customer segment, who do not need rewards or incentives to devote their time and energy to grow and share their product expertise (see Quote I in Table 17 and more discussions in the next section).

#### G1- FORUMS

Mum 2

		TECHNICAL BENEFITS					PRODUCT ATTRIBUTES					PRODUCT INFO							FREQUENCY	
		ABSORBENCY	BREATHABILITY	ODOUR PACKAGING	ODOUR DURING USAGE	SENSE OF TOUCH	SURFACE FINISH	MATERIAL QUALITY	AESTHETICS	UNIQUENESS	COST PERFORMANCE	PRICE	PRODUCT RATINGS	RECOMMENDATIONS	POSITIVE REVIEWS	NEGATIVE REVIEWS	BENEFIT VIDEOS	OF VISIT	OF POSTING	
MUM1	MAMABANG	A	A	ST	ST	A	N	A	N	A	A	ST	A	A	A	ST	N	MONTHLY	MONTHLY	
	BABYTREE	A	A	ST	ST	A	ST	A	ST	A	A	A	ST	A	A	ST	ST	WEEKLY	MONTHLY	
MUM2	BABYTREE	A	A	A	A	ST	ST	A	N	A	ST	ST	A	A	A	ST	ST	3/4 TIMES A WEEK	WEEKLY	
	MAMABANG	A	A	A	A	ST	ST	A	N	A	ST	ST	A	A	A	A	ST	2 TIMES A WEEK	2 TIMES A WEEK	
MUM3	BABYTREE	A	A	A	A	A	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	MONTHLY	
	MAMABANG	ST	ST	ST	ST	ST	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	MONTHLY	
MUM4	BABYCARE	A	A	N	N	A	A	A	N	ST	A	A	A	A	A	A	ST	WEEKLY		
	BABYTREE	A	A	ST	ST	A	A	A	ST	A	A	ST	A	A	A	A	ST	DAILY	WEEKLY	
MUM5	BABYTREE	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	3 TIMES A WEEK	WEEKLY	
	YAO LAN	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	2 TIMES A WEEK	NEVER	
MUM6	BABYCARE	A	A	A	A	A	A	A		A	A	A	A	A				WEEKLY	WEEKLY	
	YAO LAN	A	A	A	A	A	A	A		A	A	A	A					DAILY	WEEKLY	
	BABYTREE	A	A	A	A	A	A	A		A	A	A	A	A				WEEKLY	WEEKLY	

#### G1- E-COMMERCE

Mum 2

		TECHNICAL BENEFITS					PRODUCT ATTRIBUTES					PRODUCT INFO								FREQUENCY	
		ABSORBENCY	BREATHABILITY	ODOUR PACKAGING	ODOUR DURING USAGE	SENSE OF TOUCH	SURFACE FINISH	MATERIAL QUALITY	AESTHETICS	UNIQUENESS	COST PERFORMANCE	PRICE	PRODUCT RATINGS	RECOMMENDATIONS	POSITIVE REVIEWS	NEGATIVE REVIEWS	BENEFIT VIDEOS	OF VISIT	OF POSTING		
MUM1	JD	A	A	ST	ST	A	A	A	ST	A	A	N	A	A	ST	ST	ST	MONTHLY			
	JD	A	A	A	A	ST	ST	A	ST	A	A	ST	A	A	A	ST	ST	3 TIMES A WEEK	VERY FEW A WEEK		
MUM2	TAOBAO	A	A	A	A	A	ST	A	ST	A	ST	ST	A	A	A	ST	A	DAILY	AFTER USING PRODUCT		
	AMAZON	A	A	A	A	ST	ST	A	ST	A	A	ST	A	A	A	A	ST	WEEKLY	NEVER		
MUM3	JD	ST	ST	ST	ST	ST	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	NEVER		
	YHD	ST	ST	ST	ST	ST	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	NEVER		
	AMAZON	ST	ST	ST	ST	ST	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	NEVER		
	RED BABY	ST	ST	ST	ST	ST	ST	ST	ST	ST	N	N	A	A	A	A	A	DAILY	NEVER		
MUM4	RED BABY	A	A	A	A	A	A	A	ST	A	A	A	A	A	A	A	A	ST	WEEKLY	WEEKLY	
	AMAZON	A	A	A	A	A	A	A	ST	A	A	A	A	A	A	A	A	ST	WEEKLY	WEEKLY	
	TAOBAO	A	A	A	A	A	A	A	ST	A	A	A	A	ST	A	A	ST	WEEKLY	WEEKLY		
	JD	A	A	A	A	A	A	A	ST	A	A	A	A	A	A	A	A	ST	WEEKLY	WEEKLY	
MUM5	JD	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	DAILY	ONCE		
	ABROAD PURCHASE SITE	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	WEEKLY	ONCE		
MUM6	YHD	A	A	A	A	A	A	A		A		A						WEEKLY			
	DANGDANG	A	A	A	A	A	A	A		A		A					A	WEEKLY	WEEKLY		
	JD	A	A	A	A	A						COULD NOT SEE									
	AMAZON	A	A	A	A	A	A	A		A	A	A						MONTHLY			
	WOMAN MY PURCHASE	A	A	A	A	A	A	A		A	A	A						WEEKLY			

Figure 64: Sample pages of ongoing data presentation and analysis report during data collection (A=Always; ST=Sometimes, N=Never) [source: developed for this research based on focus groups participants responses to the VBR tool, see Figure 19, 36, 47]

SEGMENT	MUM	FORUM	FREQUENCY		E-commerce	FREQUENCY	
			OF READING	OF POSTING		OF READING	OF POSTING
FG2	Mum 1a01	Beijing Mama	Daily	weekly	JD.com	daily	weekly
	Mum 1a01	Babycare	weekly	monthly	Group purchase	daily	weekly
	Mum 1a02	Mamabang	weekly	monthly	JD.com	daily	monthly
	Mum 1a02				YHD	daily	weekly
	Mum 1a03	Babycare	Daily	weekly	Taobao.com	daily	weekly
	Mum 1a03	Yaolan	Daily	weekly	YHD	weekly	weekly
	Mum 1a03	Babytree	Daily	weekly	JD.com	daily	weekly
	Mum 1a04	Babycare	weekly	monthly	YHD	daily	daily
	Mum 1a04				JD.com	daily	daily
	Mum 1a04				Taobao.com	daily	daily
	Mum 1a05	Mamabang	daily	weekly	JD.com	weekly	weekly
	Mum 1a05				Taobao.com	daily	weekly
	Mum 1a06	Babytree	weekly	weekly	JD.com	weekly	weekly
	Mum 1a06	Yaolan	weekly	weekly	Red Baby	weekly	weekly
	Mum 1a06	Babycare	weekly	weekly	YHD	weekly	weekly
FG3	Mum 1b01	Babytree	weekly	weekly	JD.com	Daily	weekly
	Mum 1b01				Dangdang	Daily	weekly
	Mum 1b01				YHD	weekly	weekly
	Mum 1b01				Taobao.com	Daily	weekly
	Mum 1b02	Babytree	Daily	Daily	Red Baby	Daily	weekly
	Mum 1b02	Beijing Mama	Daily	Daily	JD.com	Daily	monthly
	Mum 1b03	Babytree	Daily	weekly	Taobao.com	Daily	monthly

	Mum 1b03	Yaolan	Daily	weekly	YHD	Daily	monthly
	Mum 1b03				JD.com	Daily	monthly
	Mum 1b04	Babycare	Daily	Daily	JD.com	Daily	daily
	Mum 1b05	Babytree	Daily	Daily	JD.com	Daily	weekly
	Mum 1b06	Babytree	Daily	Daily	JD.com	weekly	weekly
	Mum 1b06	Babycare	weekly	weekly	Taobao.com	Daily	daily
FG6 Mum 1	Mum 1c01	Babytree	Daily	weekly	YHD	weekly	monthly
	Mum 1c01	Yaolan	weekly	weekly	JD.com	Daily	monthly
	Mum 1c02	Babytree	weekly	weekly	JD.com	Daily	weekly
	Mum 1c02	Yaolan	weekly	weekly	Red Baby	weekly	weekly
	Mum 1c03	Babytree	Daily	twice a week	JD.com	Daily	weekly
	Mum 1c03				Taobao.com	twice a day	twice a week
	Mum 1c03				YHD	Daily	weekly
	Mum 1c04	Babytree	weekly	monthly	Tmall	weekly	weekly
	Mum 1c04				Taobao.com	weekly	weekly
	Mum 1c05	Babytree	weekly	never	JD.com	Daily	never
	Mum 1c05	55BBS	weekly	never	Taobao.com	Daily	never
	Mum 1c05	Babycare	weekly	never			
	Mum 1c06	Mamabang	Daily	1-3 times a month	JD.com	Daily	never
	Mum 1c06				Taobao.com	Daily	never

Figure 65: Frequencies of reading or posting on forums or e-commerce site of Mum 1  
[source: developed for this research based on focus groups participants responses to the VBR tool, see Figure 19, 36, 47]

SEGMENT	MUM	FORUM	FREQUENCY		E-commerce	FREQUENCY	
			OF READING	OF POSTING		OF READING	OF POSTING
FG1  Mum 2	Mum 2a01	Mamabang	monthly	monthly	JD.com	monthly	never
	Mum 2a01	Babytree	weekly	monthly			
	Mum 2a02	Babytree	3-4 times a week	weekly	JD.com	3 times a week	very few a week
	Mum 2a02	Mamabang	twice a week	twice a week	Taobao.com	daily	after using products
	Mum 2a02				Amazon.cn	weekly	never
	Mum 2a03	Babytree	Daily	monthly	JD.com	daily	never
	Mum 2a03	Mamabang	Daily	monthly	YHD	daily	never
	Mum 2a03				Amazon.cn	daily	never
	Mum 2a03				Red Baby	daily	never
	Mum 2a04	Babycare	Weekly	never	Red Baby	weekly	weekly
	Mum 2a04	Babytree	Daily	weekly	Amazon.cn	weekly	weekly
	Mum 2a04				Taobao.com	weekly	weekly
	Mum 2a04				JD.com	weekly	weekly
	Mum 2a05	Babytree	3 times a week	weekly	JD.com	daily	once
	Mum 2a05	Yaolan	twices a week	never	a foreign site	weekly	once
	Mum 2a06	Babycare	weekly	weekly	YHD	weekly	never
	Mum 2a06	Yaolan	daily	weekly	Dangdang	weekly	weekly
	Mum 2a06	Babycare	weekly	weekly	JD.com	no data	no data
	Mum 2a06	Yaolan	daily	weekly	Amazon.cn	monthly	never
	Mum 2a06	Babytree	weekly	weekly	Womai	weekly	never
	Mum 2b01	55BBS	weekly	weekly	JD.com	weekly	weekly
	Mum 2b02	Babytree	daily	weekly	JD.com	daily	weekly

FG4	Mum 2b02				Amazon.cn	weekly	weekly
	Mum 2b03	Babytree	daily	weekly	JD.com	weekly	never
Mum 2	Mum 2b04	Yaolan	weekly	weekly	Taobao.com	monthly	monthly
	Mum 2b04	Babytree	weekly	weekly	YHD	daily	daily
	Mum 2b04				Dangdang	weekly	weekly
	Mum 2b04				Amazon.cn	monthly	monthly
	Mum 2b04				JD.com	monthly	monthly
	Mum 2b05	Beijing Mama	weekly	weekly	Taobao.com	daily	weekly
	Mum 2b05	Babytree	weekly	weekly	Dangdang	weekly	weekly
	Mum 2b05	55BBS	weekly	weekly	JD.com	weekly	weekly
	Mum 2b05				Amazon.cn	weekly	weekly
	Mum 2b06	Babycare	daily	no data	Amazon.cn	weekly	weekly
	Mum 2b06	Sina	weekly	monthly	Taobao.com	daily	daily
	Mum 2b06	Meet you	daily	weekly	JD.com	monthly	monthly
	Mum 2b06	PC baby	daily	daily	Dangdang	weekly	weekly
FG5	Mum 2c01	Mama.com	monthly	monthly	No data	monthly	monthly
	Mum 2c01				JD.com	weekly	monthly
	Mum 2c02	Babycare	weekly	monthly	JD.com	weekly	monthly
	Mum 2c02				Taobao.com	daily	weekly
	Mum 2c03	Babytree	3 times a week	3 times a week	JD.com	5 times a week	weekly
	Mum 2c03	Babycare	3 times a week	twice a week	YHD	3 times a week	weekly
	Mum 2c03	Yaolan	twice a week	weekly	No data	4 times a week	never
	Mum 2c04	Babycare	monthly	monthly	JD.com	monthly	monthly

Mum 2c04				Taobao.com	monthly	monthly
Mum 2c05	Babytree	4 times a week	4 times a week	JD.com	weekly	weekly
Mum 2c06	Babytree	weekly	No data	Taobao.com	daily	weekly
Mum 2c06	Babycare	weekly	monthly	JD.com	daily	weekly

Figure 66: Frequencies of reading or posting on forums or e-commerce site of Mum 2  
[source: developed for this research based on focus groups participants responses to the VBR tool, see Figure 19, 36, 47]

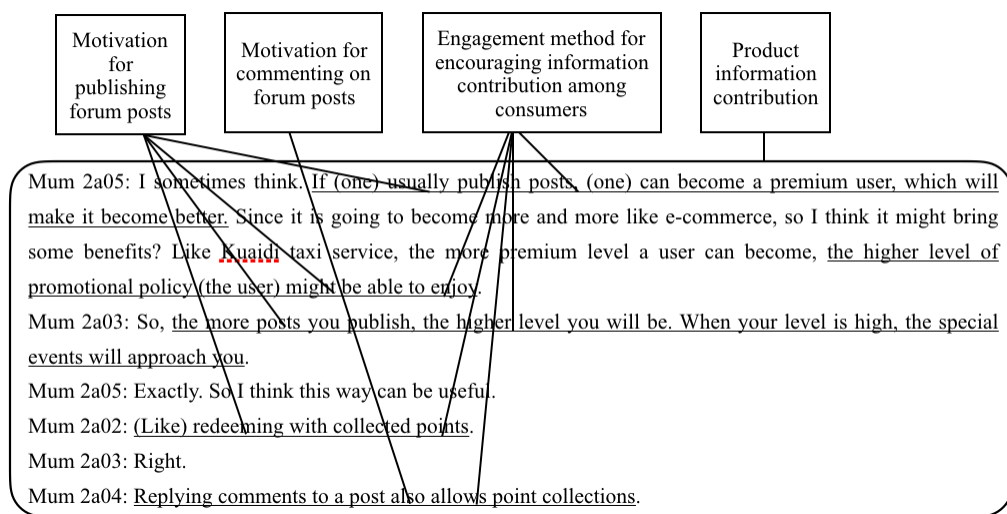
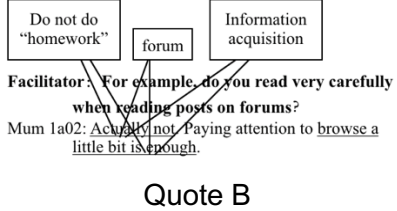
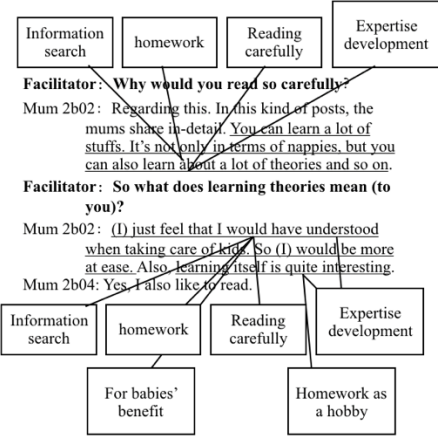
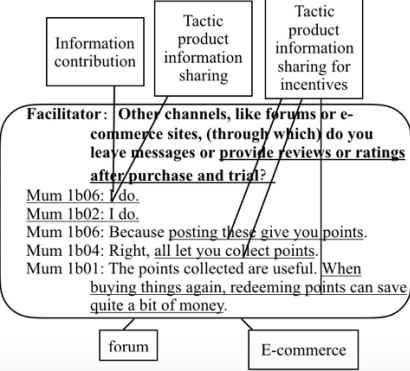
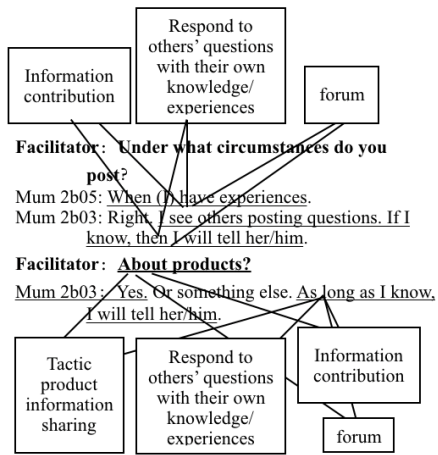


Figure 67: Excerpted focus groups transcripts about “Mum 2”’s suggestions of using incentives to encourage product knowledge contribution of consumers [source: created in this study]

Categories of customer information exchange activities on SM	Mum 1		Mum 2		Emerged group of mums that was absent in the Case Firm A's target groups	
	Do they conduct this activity?	Examples of quotes from focus groups transcripts	Do they conduct this activity?	Examples of quotes from focus groups transcripts	Do they conduct this activity?	Examples of quotes from focus groups transcripts
Information acquisition for purchase decision making	Yes.	<p>Quote A</p>	Yes.	<p>Quote E</p>	No data.	



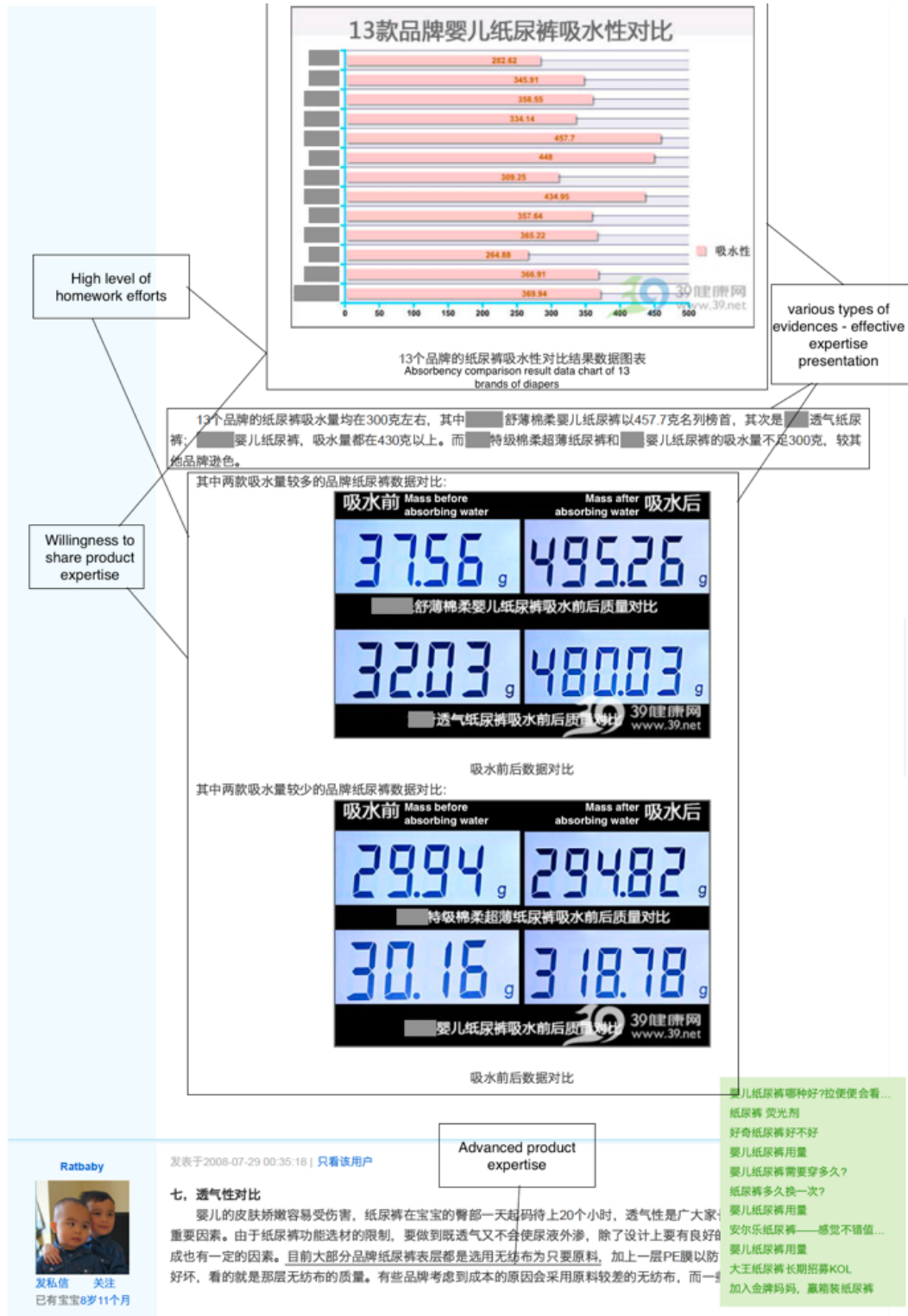
<p>“Homework” activities for product expertise development</p>	<p>No.</p>	 <p>Quote B</p>	<p>Yes.</p>	 <p>Quote F</p>	<p>No data.</p>	
<p>Tactic product information contribution</p>	<p>Yes.</p>	 <p>Quote C</p>	<p>Yes.</p>	 <p>Quote G</p>	<p>No data.</p>	

Product expertise contribution	No.	<div>Do not tend to share expertise</div> <div>Information acquisition</div> <div>Information acquisition by posting to ask for help</div> <p><b>Facilitator:</b> Everybody, do you proactively post something like experience? Mum 1b01: Seldom post. More likely to ask for help.</p> <p>Quote D</p>	No.	<div>Do not share information frequently</div> <div>Do not share expertise</div> <div>Reason of lack of information contribution: no time</div> <div>Reason of lack of information contribution: existing posts are sufficient</div> <div>Reason of lack of information contribution: lack of sense of rewards</div> <div>forum</div> <p><b>Facilitator:</b> I see that in general, your frequency of posting is not high? Mum 2a02: No time. Mum 2a05: I actually posted one, which was an experiment I did. But nobody read it. Actually, one mum commented. She said: "so thoughtful". Only four characters, and no more. Mum 2a04: Since there are many "picked posts" like this, such as comparisons, experiments, and gathering brands to present you the comparisons. Many "picked posts". So there is no need for you to post.</p> <p>Quote H</p>	Yes. As indicated by Mum 2	<div>The emergent consumer group</div> <div>forum</div> <div>Product expertise contribution on forums</div> <p><b>Facilitator:</b> Or have you ever opened any posts that introduces any contents that make you feel interesting? Mum 2c05: No very interesting one. But some posts compare every brands, including features, functionalities, which were written in detail. Also experiments. Once you read them, you would know which is good or which is not good.</p> <div>Information acquisition</div> <div>Information acquisition for purchase decision making</div> <p>Quote I</p>
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Table 17: Categories of SM information exchange activities conducted by target consumers [source: created in this study]

#### 4.4.2[f] The emergent new customer segment

According to “Mum 2” and “Mum 1”, a great number of product related information provided by peer customers already existed on social media. Especially, “Mum 2” expressed that they could find detailed product reviews that compared different products through discussions of product specifications or displays of photos of experiments (see Figure 68).



**3. 细节元素**

为了配合市场不同的需求，纸尿裤在技术工艺研发上同样也在不断的向前发展，从最原始的蚊帐布尿布，到现在一次性的纸尿裤，胶膜、纸膜、布膜，一层一层地，为使宝宝得到最周全最舒适的保护而不断改进，目前市场上纸尿裤的功能主要有立体护围、环抱设计、尿湿显示、护肤层，一些厂家加入多层无纺布以减少纸尿裤回渗的机会。13款品牌的细节对比如图：

Advanced product expertise

High level of homework efforts

Willingness to share product expertise

纸尿裤 Diapers	3D leak guardling	Surrounded design	Wetness display	Skincare layer	Nonwovens (number of layers)
纸尿裤 1	✓	✓	×	抑菌层	1
纸尿裤 2	✓	×	×	×	1
纸尿裤 3	✓	×	×	×	1
纸尿裤 4	✓	×	×	×	2
纸尿裤 5	✓	×	×	×	2
纸尿裤 6	✓	×	×	×	1
纸尿裤 7	✓	×	×	×	1
纸尿裤 8	✓	×	×	×	1
纸尿裤 9	✓	×	×	×	2
纸尿裤 10	✓	×	×	×	1
纸尿裤 11	×	×	×	×	1
纸尿裤 12	✓	×	×	×	1
纸尿裤 13	✓	×	×	×	1

13款婴儿纸尿裤横向评测  
Lateral evaluation of 13 infant diapers

其中以■■■■纸尿裤的细节最完善，几乎把能加入的元素都加进一小片纸尿裤中，大大加强了宝宝穿着的舒适性同时使家长更加放心。而■■■■宝纸尿裤相对比较逊色，技术工艺较为单调。

[回复](#) [举报](#)

**Ratbaby**

发表于2008-07-29 00:33:49 | 只看该用户

5楼

**六、吸收性对比 VI. Absorbency Comparison**

吸收宝宝排出的尿液是纸尿裤的主要功能，好的婴儿纸尿裤不仅有大容量的吸收性，而且不测漏，吸收迅速。之前提过，尿液的吸收主要靠纸尿裤里面的高分子吸收树脂，所以纸尿裤的厚薄和大小不能决定纸尿裤的吸收性的强弱，还要看评测中心的吸收性测试吧。

测试方法：Testing method

1. 把干爽的纸尿裤置于电子天平上，称出其条质量；
2. 把纸尿裤的表面向上地浸泡于水中20秒。
3. 用镊子夹住纸尿裤的一侧提起，静止30秒，待纸尿裤上的水不再往下流。
4. 把湿透的纸尿裤放置于电子称上称其质量，最后得出的数据于原来干燥纸尿裤数据相减得

具体数据如表：

婴儿纸尿裤哪种好?拉便便会看...

纸尿裤 荧光剂

好奇纸尿裤好不好

婴儿纸尿裤用量

婴儿纸尿裤需要穿多久?

纸尿裤多久换一次?

婴儿纸尿裤用量

安尔乐纸尿裤——感觉不错值...

婴儿纸尿裤用量

大王纸尿裤长期招募KOL

加入金牌妈妈，赢取纸尿裤

Advanced product expertise

Willingness to share product expertise

Figure 68: A sample of an expert consumers' forum post that tested and compared 13 different diaper products with analysis [source: adapted from Babytree.com (Ratbaby on Babytree.com, 2008)]

An indication was that a different type of consumers existed, as neither “Mum 1” nor “Mum 2” were found to provide expert product information online. This emergent group was not included in the target consumer group but could provide valuable product insights to the Case Firm A. The reason was that this type of consumers actively provided in-depth and detailed product reviews on consumer forums, which demonstrated a high level of product expertise. In addition, they did not require rewards or incentives to contribute these high-quality contents. These product reviews were widely adopted by other consumers as a significant information or knowledge source that could assist their product selections. Hence, an implication was that this type of customers “silently” performed the opinion leader role in the whole consumer community.

#### 4.2.2[g] The extensive and strategic information acquisition activities in CDJ

The data demonstrated an extensive and strategic information search behaviour in the target customer groups' CDJs. Three variations of information acquisition activities were indicated in their responses: (1) pre-purchase information acquisition, (2) "last minute" information search when purchasing, and 3).post-purchase product learnings through trials (see Figure 58 presented in Section 4.4.2[e]). All the three types of information search activities mainly occur on SM platforms in 3 different approaches: (1) communicating with friends through SM like "WeChat" and "QQ" (see Figure 69), (2) obtaining existing information provided by "strangers" on SM like "Babytree.com" and "JD.com" (see Table 17 presented in Section 4.4.2[e]), 3).posting questions on SM like "Babytree.com" and wait for answers from "strangers" (see Figure 70).

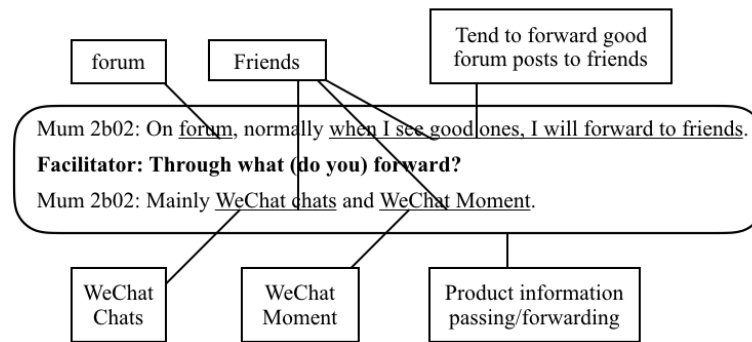


Figure 69: Excerpted focus groups transcripts that indicate through which SM channels consumers forward forum posts to others [source: created in this study]

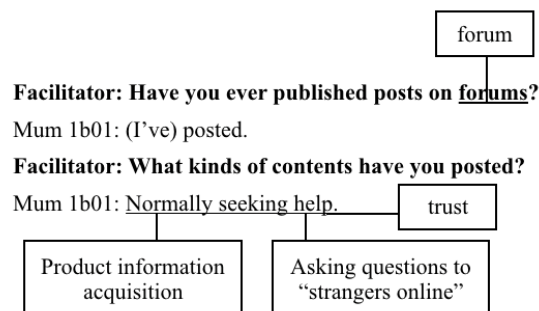


Figure 70: Excerpted focus group transcript that demonstrate target consumers posting questions on forums to seek help from "strangers online" [source: created in this study]

#### ***Search and Selection Strategies of Customers' Pre-purchase Information Search Activities***

Focus groups participants confirmed that they selected "Babytree.com" as it was both the top search result from the Chinese search engine Baidu.com (Baidu.com, 2017) (see

Figure 71 below and 52 presented in Section 4.2.2[c]), and the most recommended forum of friends (see Figure 72). Their responses also indicated that the variety of information, volume of information, credibility of the site indicated by its visual design, and the structure of content categorisations constitute criteria for forum selection (see Figure 73). They tended to gather information from JD.com because it was their top shopping destination (see Figure 52 presented in Section 4.2.2[c]).

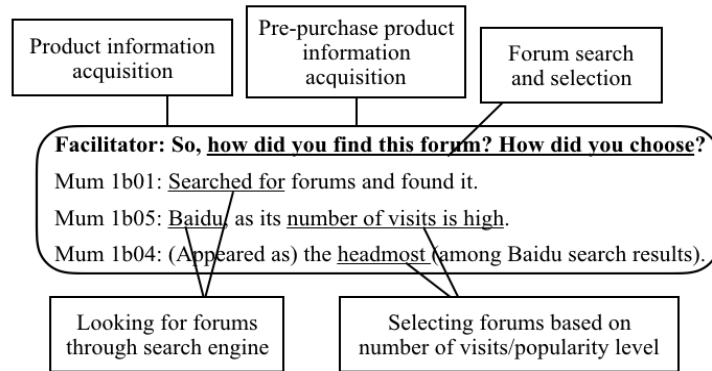


Figure 71: Excerpted focus groups transcript that demonstrated target customers' use of Baidu.com to search and select forums [source: created in this study]

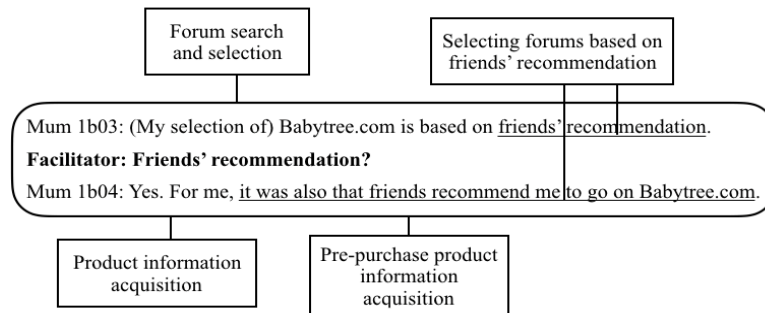


Figure 72: Excerpted focus groups transcript that demonstrate target customers' selection of forums based on friends' recommendations [source: created in this study]

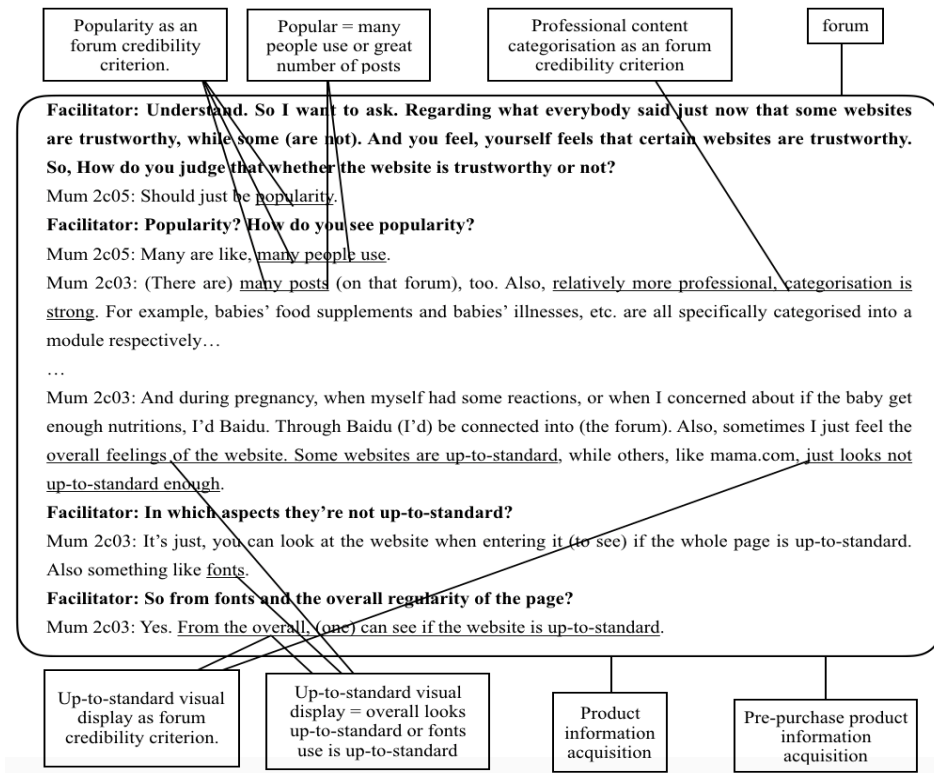


Figure 73: Excerpted focus groups transcripts that demonstrate customers' criteria of forum credibility [source: created in this study]

In pre-purchase information acquisition, discussions about product quality (technical or functional features), cost performance indicators, product average ratings, general product recommendations, and detailed product reviews provided by peer consumers were perceived to be significant signals to capture. Both groups of consumers recognised that the existing product information provided by peer consumers were extensive on SM. However, they did not indicate any difficulties in locating the information that they need or they perceive to be useful. Information identification and selection is generally accomplished through strategies of search of keywords, examination of each post's click rate, focusing on detailedly written posts with real-life experiences and pictures, and targeting at "picked posts" (see Figure 74). They recognised that answers can be found for the majority of their questions on forums. When failing to find ready-made solutions, they post questions to friends or someone online on forums, or closed social media groups (like WeChat groups, or QQ groups).



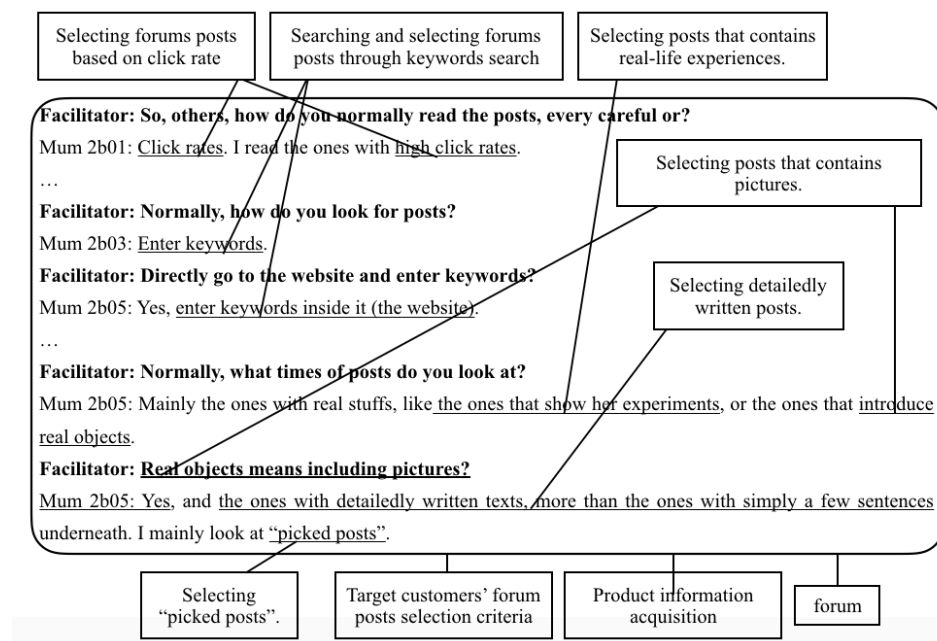


Figure 74: Excerpted focus groups transcripts that demonstrate target consumers' forum posts search and selection strategies [source: created in this study]

However, in accordance with the researcher's experience to navigate the example expert customer's post (see Figure 68 presented in Section 4.2.2[f]), considerable amount of time and effort is needed to search for high-quality forum posts. Due to the design of Babytree.com user interface, the keyword search and "picked post" filter cannot be applied together. It means that, for instance, even if the customers narrowed posts display to merely diaper comparison content through searching the keywords "diaper test"/ "diaper review" / "diaper comparison", they still ought to look for the high-quality ones by themselves among the search results. Because of the vast number of existing posts, the selection process is time and energy consuming. This finding implies that the level of endeavours of product information acquisition among target customers is high while their willingness to make the efforts is also outstanding.

### **Offline vendors became an information channel**

In addition to SM, customers also visited physical baby and nursery shops to inspect shelf display or product samples. It meant that customers' aim of physical shop visits have transferred from purchase to information acquisition (see Figure 59 presented in Section 4.2.2[e]). An indication was that customers highly valued information acquisition prior to purchase decision making. While the main purchase channels became highly focused on e-commerce sites, customers did not fully abandon physical shops. They adopted these offline vendors as another information source.



### ***Last-minute Product Information Acquisition***

Customers confirmed that decisions of selecting certain products to purchase were normally made by the end of pre-purchase information search, before proceeding to transactions (see Figure 75). However, customers also conducted “last minute” search when they arrived at e-commerce web pages for purchase. Product average ratings, prices, promotions, and, especially negative reviews were predominant factors for consideration and evaluation (see Figure 76). Proportion of negative reviews among all ratings of a product and the content of the negative reviews were main signals that target customers sought to capture. Whereas every customer established personal criterion for the proportion of negative reviews, key factors that could lead to withdrawal of purchase decision were observed to be product quality issues (like “nappy rash” / “red hip” or “leaking”) unanimously. In summary, consumers tended to arrive at the e-commerce page with a ready-made decision. Yet, significant negative reviews of the selected product might trigger decision alteration of both groups of consumers, while “Mum 1” might also change minds because of price.

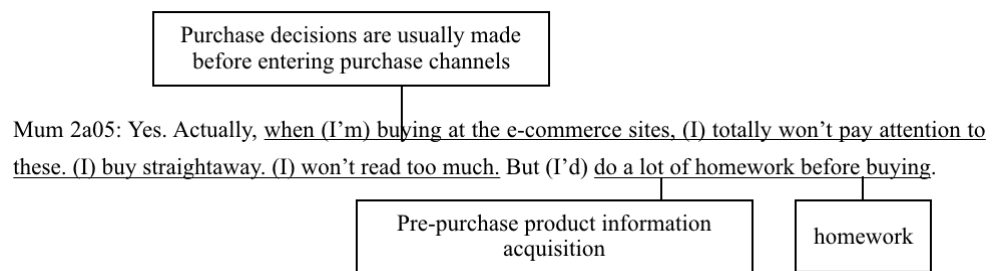


Figure 75: Excerpted focus groups transcript that indicate target consumers make purchase decisions before entering the purchase channel [source: created in this study]

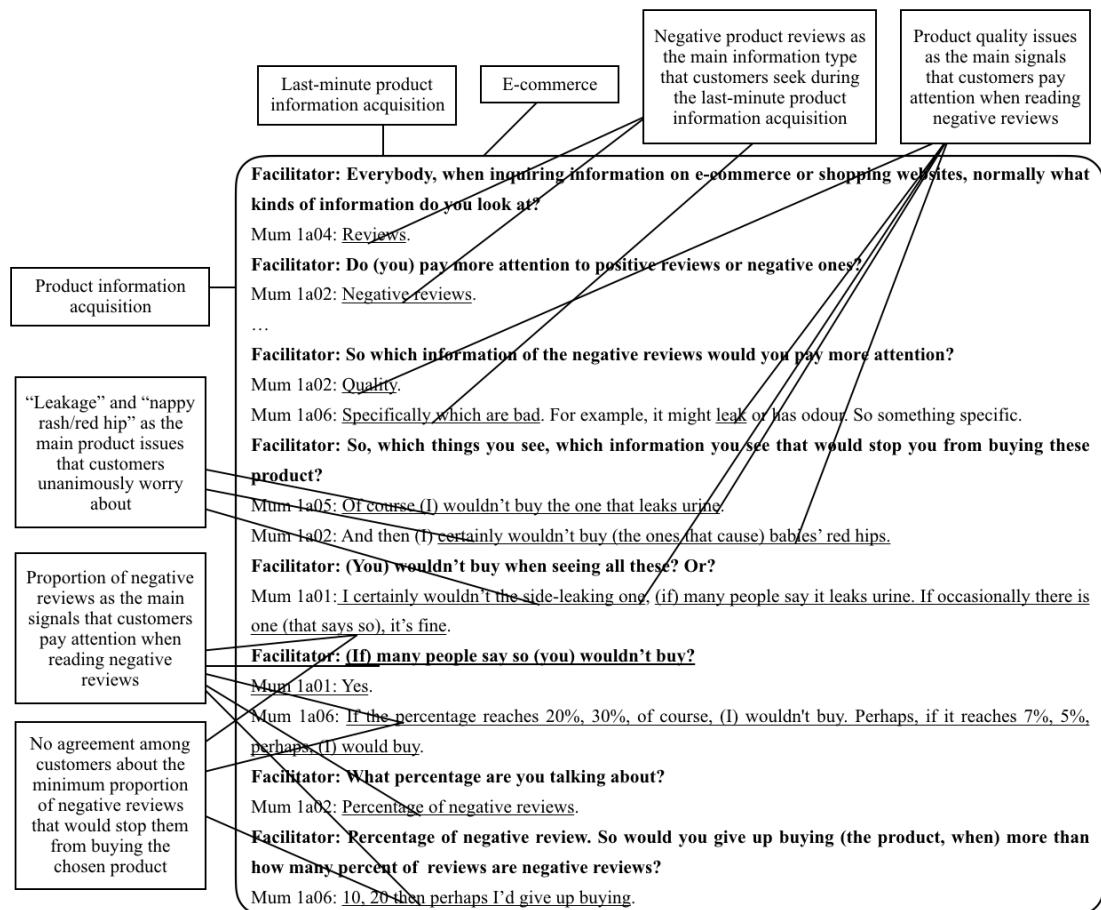


Figure 76: Excerpted focus groups transcript that indicate target consumers conduct last-minute information acquisition in the purchasing channels [source: created in this study]

### Post-purchase Product Information Acquisition

The analysis of data suggested that customers did not stop information acquisition even after transactions were made. They tended to conduct trials to compare different products as another product information learning activity. These trials could be touching the nappies with their hands, cheeks, or inner surface of thighs, experiment with water, or directly testing with their infants (see Figure 41). The product trial activity was triggered by customers' belief that direct personal experience provides the most accurate information (see Figure 41 and 77). "Mum 2" especially tended to compare a wide array of products and conclude advantages or disadvantages to inform future purchase decision making (see more discussions in Section 4.2.2[d] and 4.2.2[e]).

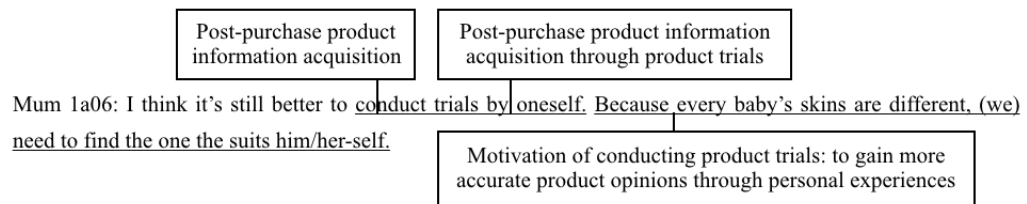


Figure 77: Excerpted focus groups transcripts that demonstrate customers' willingness of having personal experiences of product usage [source: created in this study]

Apart from conducting investigations by themselves, target customers also consulted others in post-purchase information seeking (see Figure 78). Both segments of customers searched for solutions of product usage or trouble shooting from posts of "strangers" on online parenting forums or from friends through WeChat or QQ Groups. All the actions of post-purchase product information acquisition reflected the impressive level of care and endeavours of the customers in product selection for their children. The indication was that an intrinsic goal of product information inquiry of the target customers was to identify the best products for their babies.

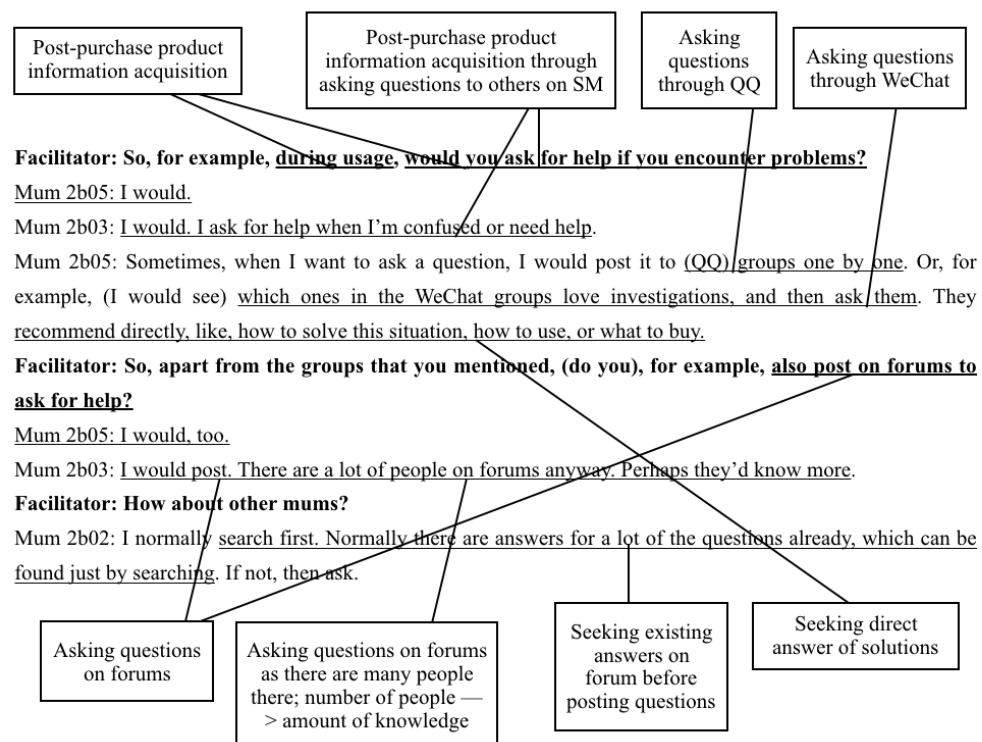


Figure 78: Excerpted focus groups transcripts about consulting others as an approach of target customers' post-purchase product information acquisition activities [source: created in this study]

**4.2.2[h] Customers’ Preference of Peer Provided Product Information**

As mentioned in previous findings (see Section 4.2.2[c]), focus groups responses from both target groups demonstrated 2 ways of social media utilisation in information acquisition. First, social media was used as a direct communication channel between them and friends. They leveraged the “group chat” function of Wechat and QQ (WeChat, 2017; QQ International, 2017) and “Moment” function of WeChat (Tencent, 2015) to actively seek or to be passively exposed to nappy product information from friends (See Figure 62 in Section 4.2.2[e] and 69 in Section 4.2.2[g]). Friends were revealed to be the most trustworthy information source for both target groups (see Figure 79 and 80). Sixteen of the 18 participated “Mum 2”, and 16 of the 18 “Mum 1” participants in the focus groups main studies stated that they trust friends’ opinions, experiences or advice.

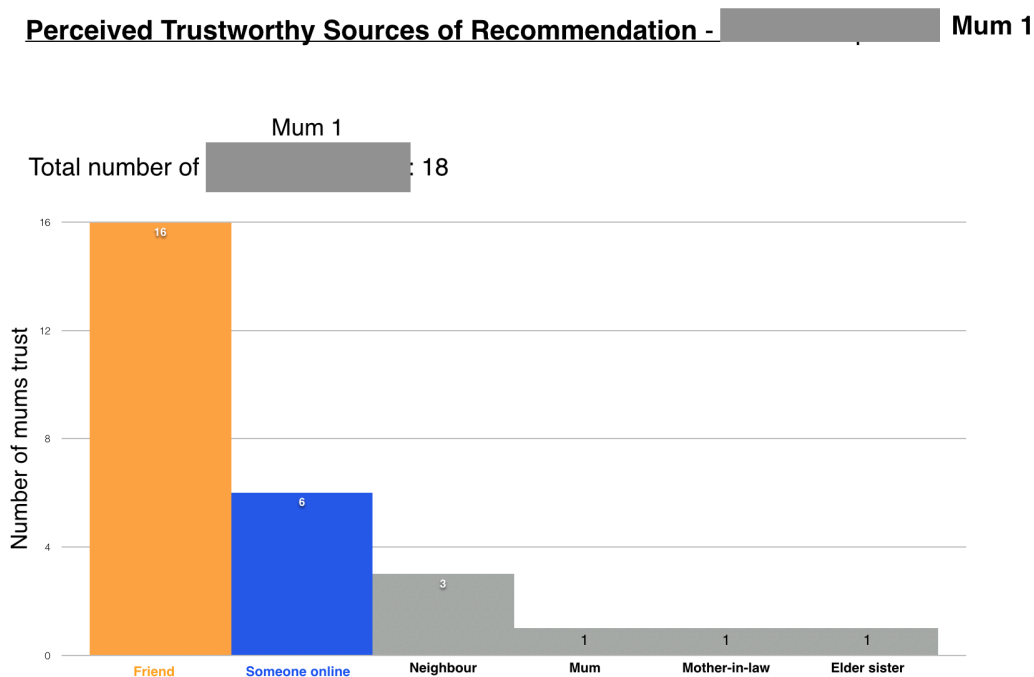


Figure 79: Descriptive statistics analysis of “Mum 1”’s responses to the VBR tool that demonstrates their perceived trustworthy sources of recommendations [source: created in this study]

## Perceived Trustworthy Sources of Recommendation - Mum 2

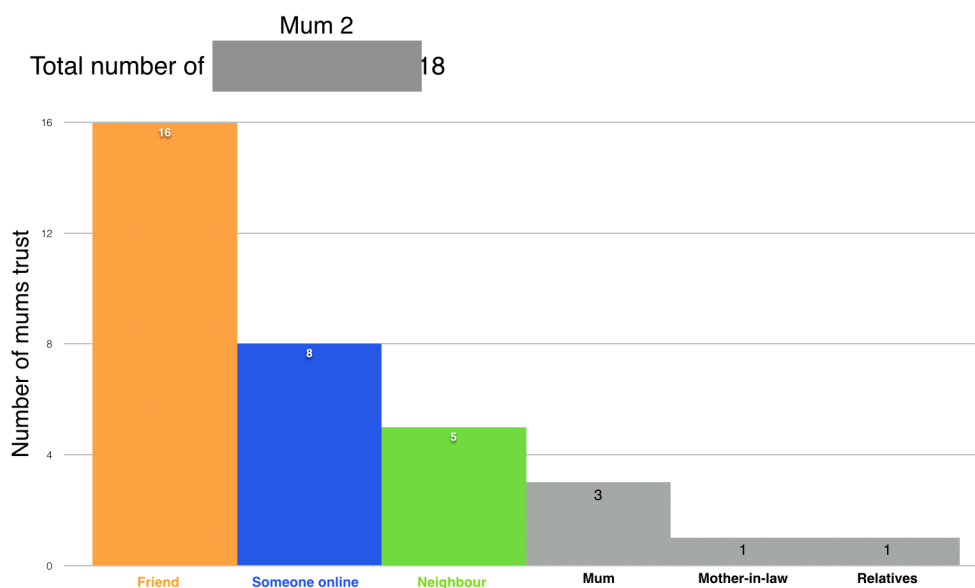


Figure 80: Descriptive statistics analysis of “Mum 2”’s responses to the VBR tool that demonstrates their perceived trustworthy sources of recommendations [source: created in this study]

The second way of using social media was to search for information published by peer customers on parenting forums and e-commerce sites. In this situation, social media was more considered as an information source than a communication tool. Normally, they did not personally know these peer consumers online. Therefore, it was reasonable that their skepticism of “strangers online” was higher than that of friends. Eight in the 18 “Mum 2” participants and 6 in the 18 “Mum 1” customers participated in the focus groups main studies demonstrated trust of “strangers online” (the research did not adopt quantitative design and the descriptive statistics analysis was merely indicative) (see Figure 79 & 80 above). Although the perceived credibility of “strangers online” among the two groups was not revealed to be impressively high, it overtook the credibility that they gave to neighbours or family members.

As mentioned by multiple “Mum 2” participants, it was probably because the “strangers online” shared the similar age and experience with them. They believed that these peer consumers owned quality knowledge learnt from real-life experience contemporarily. In comparison, their parents’ experiences, would not be sufficiently useful as those were gained long time ago (see Figure 51). In addition, the real-life experience shared by “strangers online” in forum posts transmitted a sense of credibility to the readers. The

readers believed that the purpose of posting was not to advocate for a brand, but to genuinely share personal experiences to others (see Figure 54). They also recognised an advantage of consulting “strangers online” through forums over inquiring personal friends. The latter solely allowed them to have access to limited scope of information, while the former massively enlarged this scope through the elimination of geographic distances (see Figure 81). Consequently, all the participants expressed that they tended to take into consideration the information provided by the “strangers online” to some extent.

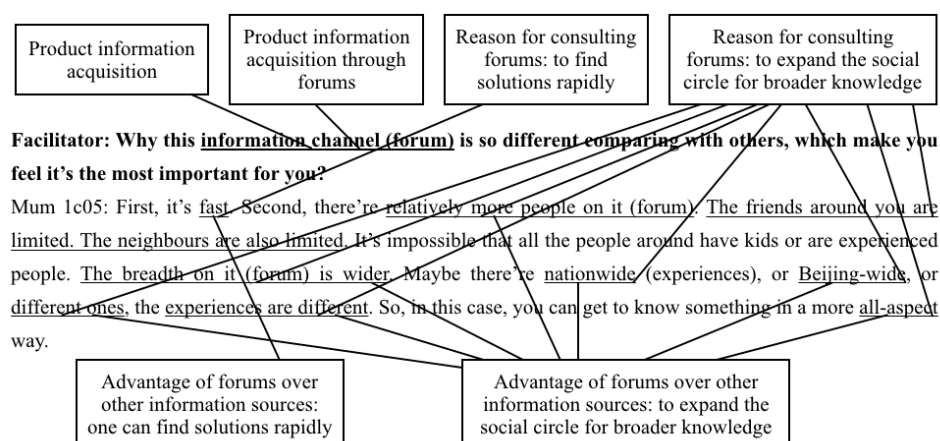


Figure 81: Excerpted focus groups transcripts that demonstrate customers' perceived advantage of consulting “strangers online” over personal friends [source: created in this study]

The bottom line was that product information provided by the producers or retailers were perceived to be the least reliable. This was confirmed by all participants in the focus groups pilot studies (see Figure 44). They demonstrated a high level of skepticism of information provided or influenced by the producers or retailers. For instance, detailed forum consumer reviews were considered to be credible, as they were based on personal experiences, which were less biased. The preference of information shared by peer consumers over by brands or sellers was also a significant reason that encouraged them to value online forum posts. In this situation, the priority for the brand should be to gain better understanding of customers' needs and develop products that fulfil these needs, instead of enhancing the marketing strategy of current offers. It is because customer leverage SM platforms to learn about product quality from peers based on real-life experiences instead of from brands' marketing activities.

#### **4.2.2[i] The emergent alternative purchase channel**

An interesting pattern was identified from the responses of “Mum 2” about an alternative purchase channel. They indicated a preference of purchasing nappy products from Japan through “daigou” – a personal retail service. The personal retail service is popular among Chinese individuals as a channel to purchase goods from foreign countries (Mercer, 2016; Shannon, 2016). The aim is to have access to goods that are not available in the Chinese market or to pursue better price by skipping the high taxation in China. Normally, Chinese people who reside in foreign countries shop the goods locally and sell them through sites that offer customer-to-customer (C2C) e-commerce services, like Taobao to those dwell in China (Taobao.com, 2017; Alexa, 2017).

“Mum 2”’s responses indicated the motivation of obtaining better quality and more premium products from a brand in Japan (see Figure 82). This brand launched a family of products in the Chinese market, which were “Mum 2”’s favourite according to their responses. However, “Mum 2” perceived the products that were designed for and distributed to the Japanese market to be more advanced in quality. They emphasised that there were differences in products that were targeted at different market or produced in different locations. For example, they even pinpointed that products made in Tokyo and in Osaka were not the same. Their information about the Japanese products were acquired from friends or “strangers” on SM.

Two implications can be drawn from this finding. First, this action of “Mum 2” indicated that they were not satisfied with the quality of existing products in the Chinese market. In this situation, SM provided them sources of information of alternatives and pathways of purchasing these alternatives abroad. In other words, consumers were empowered by SM to be better informed and to gain access to better solutions. This lied greater pressure for brands that were providing products in the Chinese market to create better products for “Mum 2” to remain competitive.

Besides, this finding also confirmed the profundity of “Mum 2”’s product knowledge. It was legitimate to hypothesise that, through the observation of their SM information exchange with peers, the study of long forum posts that they tended to read, and the direct communications them, the Case Firm A could enhance their product knowledge.

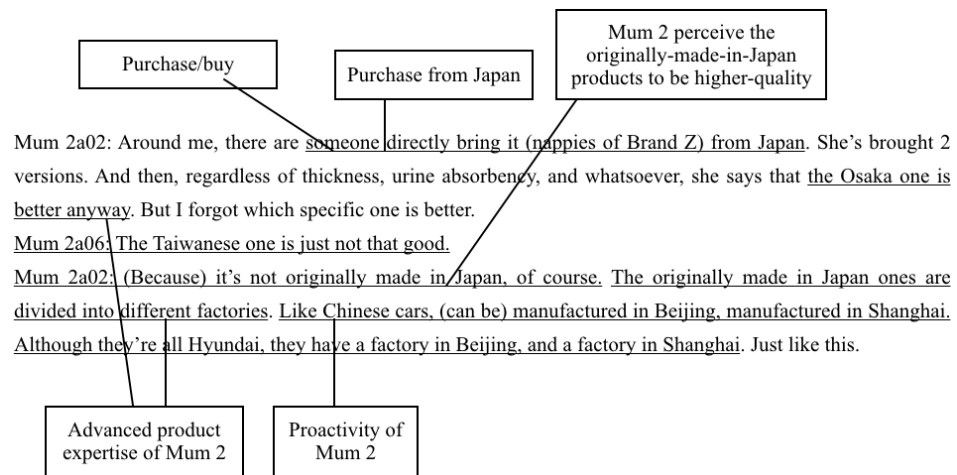


Figure 82: Excerpted focus groups transcripts that illustrate “Mum 2”’s preference and advanced knowledge of Japanese diaper products [source: created in this study]

#### 4.2.2[j] The existence of great amount of informative customer-generated product reviews on SM

The findings confirmed that a great amount of informative customer-generated product reviews existed on SM. Aligned with customers’ responses, the team found more than 5000 diaper product related posts in the “Baby-care Communication Circle (育儿交流圈)” section of the Babytree.com forum (see Figure 83). Customers also recognized the great informativeness of the existing customer generated product related contents on SM (see Section 4.2.2[e], 4.2.2[g] and 4.2.2[h]). They highly depended on these contents to select and evaluate products. “Mum 2” particularly revealed that the “expert customer”’s forum posts impressively unpacked product knowledge. In addition, these customers disclosed that they contributed their personal opinions or experiences of products briefly on SM, which added to the volume and richness of the contents. As the peer-contributed product information could assist customers to determine if the products could meet their needs, it could be inferred that they could indicate customer insights. The findings of the second round of SM text-mining study support this view (see Section 4.1.2).





Figure 83: A screen clip of the forum post search result page of keyword “diaper” on the “Baby-care Communication Circle” section of the Babytree forum [source: adapted from Babytree.com, 2014]

## 4.3 Summary of Findings and Responses to Research Questions

This section presents the summary of findings as preliminary responses to the research questions:

- (1) How and why do customers access and employ social media (SM) in their “decision Journey”?
- (2) How does SM-centred CDJ influence businesses' customer research activities in FEI and why?

### 4.3.1 Responding to research question 1: How and why do customers access and employ social media (SM) in their ‘decision Journey’?

Findings about Chinese diaper product customers’ SM-centred CDJ is presented in Section 4.2.2 in response to the research question. The learnings were established to shed lights on how SM impacts consumers’ decision journey.

The findings overtly demonstrated that the two groups of interviewed customers adopted social media as a major information source and communication channels for information

exchange in their CDJ's (see Figure 84 and 85 below and detailed findings in Section 4.2.2). They both consulted product information from friends through WeChat and QQ and "strangers" on online parenting forums (mainly Babytree.com) and e-commerce sites (Mainly JD.com). They acquired information through searching for existing public contents on SM or by asking questions to "strangers" or friends. The information search activities (**pre-purchase information acquisition**) enabled them to make purchase decisions before entering the retail channels. When arriving at retail destinations, which were normally e-commerce sites, they tended input keywords of the determined product and find the precise product page. On the page, an examination of the customer reviews either consolidated or altered their ready-made decisions (**last-minute product information acquisition**). The latter was normally triggered by a higher than 10% rate of negative reviews or significant issues about the product reflected in the reviews. After purchase, consumers might seek further information to assist product usage (**post-purchase information acquisition**). They also tended to contribute feedbacks to SM through submitting product ratings and reviews or answering others' questions, since this could help others (**tactic product information contribution**). Composing profound product reviews and sharing them to SM (**expert product information contribution**) was found not to be in their general practice. In accordance with the discovery of the behaviour pattern stated above, it can be concluded that Chinese diaper customers' CDJs were centred around SM. SM empowered them to identify the appropriate products, to assess the products, and to help peer customers through sharing personal experiences.

In addition to the common influences that both segments received from social media, "Mum 2" exhibited more advanced SM usage behaviour for product knowledge exchange activities than "Mum 1" (see Figure 84 and 85 below and detailed findings in Section 4.2.2). On average, Mum 2 tended to start product learning 2 months before birth-giving. Lengthy and profound product reviews contributed by "expert customers" on forums were identified to be their favourite source of information (**expert product information acquisition**). They read these reviews carefully to absorb knowledge, which was referred to as "**homework**". It typically took them six months to become loyal to one brand. Their statements indicated that, besides the need to identify the premium-quality product for their children, the motivation of information exchange activities also included expertise development and the need of product alteration. Their enthusiasm of product learning and the superior level of product knowledge could be observed in their performances in focus groups sessions. On the other hand, although the Mum 1 group shared the same trialling period as Mum 2 (six-month), they tended to adopt a more

pragmatic approach to product information exchange. Their actions focused on navigating product functionality and price information that could directly assist them to select products. Studying the profound forum posts (**expert product information acquisition** or “**homework**”) was not included in their behaviour. It could be concluded that “Mum 2” were more empowered by SM than “Mum 1”. SM did not merely fulfil the utilitarian and altruistic needs of “Mum 2”, but also the intrinsic motive of self-development and self-entertainment.

Besides the two core customer groups, a new segment emerged from the analysis of “Mum 2” data, which was referred to as “expert customers” (see Section 4.4.2[f]). This new segment tended to own an extraordinary level of product expertise and articulate it in detailed forum posts. It could be interpreted that SM provided a platform for the “expert customers” to share the high-quality knowledge publicly, which benefits peer customers. In other words, SM facilitates knowledge sharing, which optimises certain consumer groups’ CDJ’s.

The findings indicated that Chinese diaper customer extensively adopted SM in their CDJ for four main reasons. Firstly, the usage of SM was convenient. Customers could easily search for relevant content on forums and e-commerce sites or communicate with friends through SM. The second rationale came from the great volume of existing product related information on SM of high-quality. The contents almost enabled customers to solve any problems or doubts regarding product selection or usage. Thirdly, SM allowed customers to seek information from peers instead of product producers or retailers. Customer perceived that product reviews shared by peers were less biased, hence more trustworthy than those officially published by the brands or sellers. It was because generated product comments were free from commercial intentions, unlike those provided by the brands or retailers. Moreover, customers were empowered by SM in four aspects as stated above: (1) being able to select the best product, (2) being able to enhance product usage; (3) being able to help others, and (4) being able to develop personal knowledge (exclusive to “Mum 2”). These four types of empowerment provide the rationale of why SM was extensively adopted in and at the centre of Chinese diaper customers’ decision journeys.

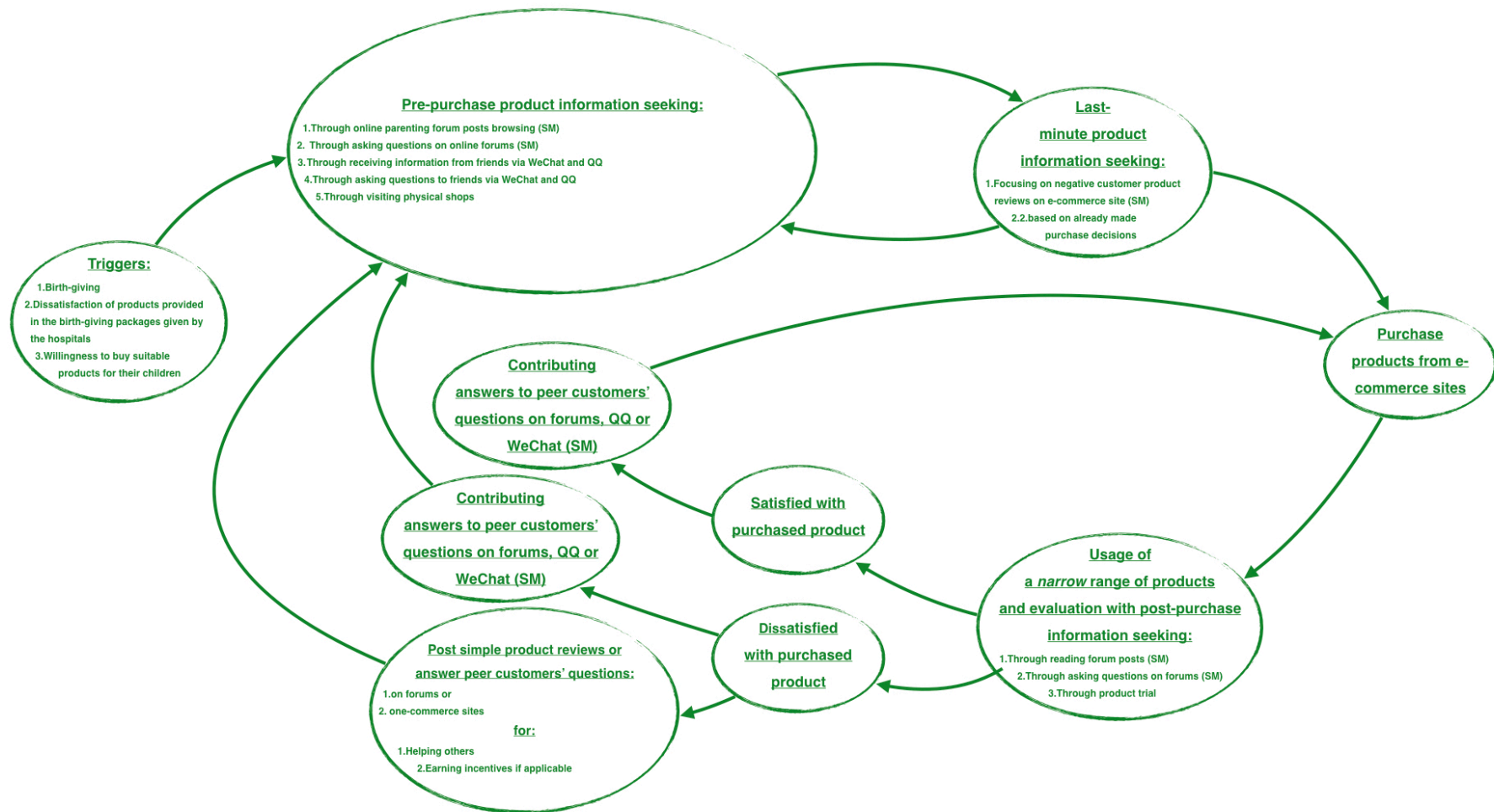


Figure 84: The SM-centred CDJ of Mum 1 before their children reach six-month old (Activities involving SM were marked with “(SM)”) [source: developed according to findings in this study]

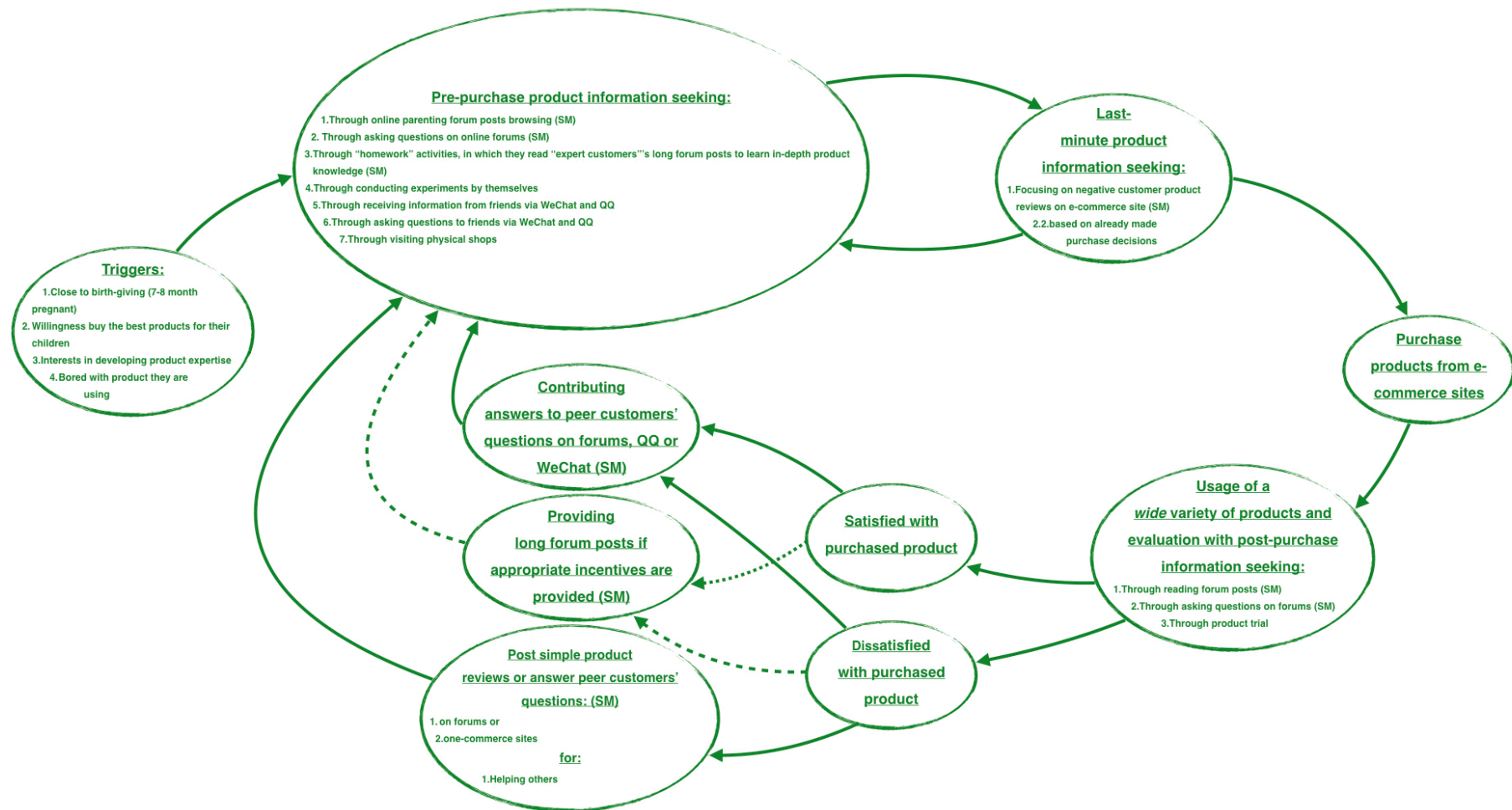


Figure 85: The SM-centred CDJ of Mum 2 before their children reach six-month old (Activities involving SM were marked with “(SM)”) [source: developed according to findings in this study]

#### **4.3.2 Responding to research question 2: How does SM-centred CDJ influence businesses' customer research activities in FEI and why?**

To provide responses to the above research question, the 3 sub-questions need to be addressed:

(2a). Has SM-driven CDJ provided new sources of customer data and new customer research methods that can be used in customer research activities in the FEI? (see Section 4.3.2[a])

(2b). To what extent, and in what ways can customer-generated product information on SM help business to identify customer needs and thus inform product innovation and why (and how does this compare with traditional customer research methods)? (see Section 4.3.2[b])

(2c). How do VBR tools affect customer research activities? (see Section 4.3.2[c])

##### **4.3.2[a] Responding to research question (2a): Has SM-driven CDJ provided new sources of customer data and new customer research methods that can be used in customer research activities in the FEI?**

Findings confirmed that the SM-centred CDJ offered FEI activities of businesses with potential new data sources and new approaches to data collections. The new data source was product reviews left by customers on SM sites, mainly like e-commerce sites and online forums (see Section 4.1 and Section 4.2.2 for more details). The study demonstrated that contemporary customers extensively exchange product related information via SM (see Section 4.2.2 and Section 4.3.1). As customer-created information is usually publicly accessible and could indicate customers' problems, preferences, and aspirations of products, it became valuable source of customer insights for businesses.

This type of data can be automatically collected and initially analysed by computer through SM text-mining technology (see Section 4.2.2 for more details). In other words, the SM-driven CDJ provided SM text-mining as a new customer research method. For example, the first round of text-mining study was able to identify Chinese diaper customer needs from customers' product reviews that were published on e-commerce sites (see Section 4.1.1 for detailed findings). The identified customer needs enabled the researcher to develop and suggest new product ideas that allowed the introduction of new product line of Firm A to the market and a drastic profit increase.

The study implied that SM-driven CDJ potentially enables businesses to conduct customer co-creation or focus groups sessions via SM. This study did not directly test a new SM-based customer research that require primary data collection (e.g., focus groups) instead of leveraging existing information on SM. However, the findings about Chinese diaper customers' CDJs suggested that it is possible. Customers extensively use SM channels like online forums or social messaging apps like "WeChat" or "QQ" to exchange information with each other (see Section 4.2.2 for detailed findings). Therefore, it is reasonable to anticipate that businesses could also utilize these SM platforms to have conversations with customers through SM co-creation or focus groups sessions for instance to collect first-hand customer data.

In addition to the confirmation that the SM-centred CDJ offered FEI activities with potential new customer data sources and new approaches to customer research, the study identified new findings of how effective are the new data sources and new customer research method. In this study, the new sources of customer data that were collected and examined were product reviews and questions published by customers on online forums and E-commerce sites (see Section 4.1). The new approach to customer research that was adopted to collect and study the new type of data was SM text-mining (see Section 4.1). Another approach – online focus groups on SM– was considered during project planning. However, based on the consideration of resources and compliance, traditional offline focus groups studies were adopted. The offline focus groups were designed with the intention of being conducted via SM in the future. For example, the VBR tools was developed in a potentially digitisable format. In summary, findings gained from the comparison between SM text-mining and offline focus groups provided answers to research questions 2[a] (see Section 4.1 and 4.2.1). Findings about the effectiveness of the VBR tool offered answers to research question 2[b].

**4.3.2[b] Responding to research question (2b). To what extent, and in what ways can customer-generated product information on SM help business to identify customer needs and thus inform product innovation and why (and how does this compare with traditional customer research methods)?**

In summary, SM text-mining allowed the researcher to navigate through a great amount of information that could easily cause information overload (see detailed findings in Section 4.2). It identified relevant and informative signals efficiently and automatically. The information assisted the study to capture customer needs and insight that could be used to generate new product ideas, and to design other customer research activities.

On the other hand, the study also revealed the main disadvantage of SM text-mining method as the absence of depth and accuracy of insights. Also, what can be discovered from text-mining of existing customer-created product reviews on SM was limited to what customers publish. The researcher could acquire alternative information through communications with customers, which can be achieved, for example, in focus group studies. the demand of time, labour intensity and researchers' analytical skills was much higher.

On the contrary, focus groups studies allowed the researcher to ask questions directly to the customers, and observe their behaviour, which allowed innovative and in-depth insights about customer needs to emerge (see Section 4.2.1). In other word, comparing with the SM text-mining studies, the focus groups were not limited by the existing customer reviews on SM, while were able to dive deeper into the meanings under the face value of information provided by customers. However, the demand of time and labour intensity of focus groups method was much higher, while there was lack of flexibility of time and geographic location. These disadvantages of the focus groups method could potentially be improved by conducting the studies on SM platforms according to the literatures (see more discussions in Chapter 2).

Overall, despite the intrinsic characteristics of the two research methods, the research design, research facilitation, and research tool usage also highly influenced the customer research results (see detailed findings in Section 4.1 and 4.2.1). For example the refinement of the VBR tool and the replacement of moderator significantly improved the quality of the focus groups main study, comparing with the pilot study. In addition, the design and adoption of VBR tool and the leverage of customers' CDJ activities as two significant parts of the focus groups design enhanced the execution and the outcome of the focus groups main studies. Detailed comparisons between SM text-mining and focus groups as FEI-focused customer research methods can be find in Appendix A.

#### **4.3.2[c] Responding to research question (2c). How do VBR tools affect customer research activities?**

Findings suggest that appropriately designed VBR tool can significant facilitate the execution of focus groups studies and can enhance the identification of insights (see detailed findings in Section 4.2.1[c]). It allowed the focus groups sessions to be conducted smoothly by helping every participants to be prepared to answer the questions as they could note down structured answers. The sleek execution can be also attributed to the efficient data collection enabled by the VBR tools. As each participant



in one session was given a set of tools to complete, data from all participants could be captured at the same time. This approach was significantly more efficient than asking each question to all participants one by one and noting down the answers. As a result, sufficient time was left for follow-up questions and more in-depth discussions.

Through enhancing data collection efficiency, VBR tool also strengthened the quality of customer insights identification. It was because that it provided adequate time for follow-up group discussions, from which valuable findings about customer needs emerged (see Section 4.2.1). Besides, the VBR tool ensured that high-quality to be identified through enabling structured data analysis. As all customers' responses and the researchers' notes were collected following the same structure (the structure of the VBR tools), the analysis across data points was straightforward and organized (see Section 4.2.1[c]).

This chapter presented findings gained from analysis of data collected in this study. These findings are brought into the next chapter as ingredients to develop in-depth discussions and to draw implications.

## **5 DISCUSSIONS, INTERPRETATIONS AND REFLECTIONS**

### **5.1 Introduction**

This chapter presents the detailed discussions of the emerged findings that were introduced in the proceeding chapter. The aim is to assess the empirical findings through the lens of the existing theoretical knowledge, and to construct the new theoretical framework based on the comparisons between empirical findings and existing academic knowledge (Yin, 2013; Robson and McCartan, 2016). In accordance to the two research questions, two aspects of discussions are raised: The impact of social media (SM) on consumer decision journey (CDJ) (see Chapter 5.2), and the potential role and use of SM-centred CDJ for customer research activities to inform product ideation in the FEI (see Chapter 5.3).

### **5.2 The Impact of SM on CDJ**

This section employs 2 theoretical frameworks to further discuss the emerging themes of the findings about the impact of Social Media on consumer decision journey. The following section (Section 5.2.1) draws on the review of the McKinsey & Company Consumer Decision Journey model (McKinsey model) (Edelman, 2010; Edelman, 2010; Edelman and Singer, 2015) and the Engel-Blackwell-Miniard consumer decision model (EBM model) (Engel, et al., 1995) (see Chapter 2). Moreover, the theoretical proposition of customer and business empowerment and di-empowerment is leveraged to analyse the findings (in Section 5.2.2). Finally, Section 5.2.3 draws a conclusion of the impact of SM on CDJ.

#### **5.2.1 Comparing empirical findings of SM-centred CDJs with existing knowledge**

This section draws on the McKinsey model (Edelman, 2010; Edelman, 2010; Edelman and Singer, 2015) and the EBM model (Engel, et al., 1995) to discuss and define the impact of SM on CDJ (see Figure 06 in Section 2.2.4[c] for the synthesised CDJ model based on literatures and Figure 84-85 in Section 4.3.1 for Chinese diaper products customers' CDJ models developed from empirical findings). It is because the McKinsey model is the only recognised conceptualisation of consumer decision making process that highlights the influence of SM, while the EBM model is one of the most widely

recognised generic conceptual representation of consumer decision process. Other existing academic findings are also introduced to construct the arguments.

### **5.2.1[a] The "trigger/need recognition" stage**

The McKinsey model (Edelman, 2010; Edelman, 2010; Edelman and Singer, 2015) demonstrates that the customers enter the CDJ because of a trigger, yet it did not clarify what the trigger could be. The empirical findings filled this knowledge gap. Specifically, the findings indicated that "Mum 1" can be triggered by:

- (1) close to birth-giving (7-8 month of pregnancy) (see Section 4.2.2[d] about "motivation"),
- (2) dissatisfactions of products in use (see Section 4.2.2[b] about "different emphasis on information"), and
- (3) the willingness of buying suitable products for the children (see Section 4.2.2[d] about "motivation").

In comparison, "Mum 2" can enter their CDJ because of:

- (1) close to birth-giving (7-8 month of pregnancy) (see Section 4.2.2[d] about "motivation"),
- (2) dissatisfactions of products in use (see Section 4.2.2[b] about "different emphasis on information"),
- (3) the willingness of buying the best products for the children (see Section 4.2.2[d] about "motivation"),
- (4) their personal boredom of one product (see Section 4.2.2[d] about "motivation"), and
- (5) their personal interests of product expertise development (see Section 4.2.2[d] about "motivation").

The first triggers for both groups of mums can be viewed as an life event, which can be defined as personal/intrinsic needs (van Kleef, et al., 2005). The rest of "Mum 1"'s triggers and the second and third triggers of Mum 2 can be both personal needs or product needs, depending on how customers define product satisfaction, product suitability, and the best products. The fourth and fifth triggers of Mum 2 can be clearly categorised as personal/intrinsic needs. These findings align with the definition of EBM model (Blackwell, et al., 2001) that customers are triggered by need recognition to enter the CDJ. However, the findings did not directly provide indications of SM's influence on the trigger or need recognition stage of customers' decision journey. In other words, the empirical findings of the impact of SM on CDJ do not focus on the "trigger/need recognition stage".

### **5.2.1[b] The "information acquisition and product evaluation" stage**

The empirical findings suggest that, after being triggered, the customers enter an active product information acquisition and evaluation stage, which enables them to make purchase decisions before entering the purchase channel (shops) (see Section 4.2.2[g]). This stage aligns with the Evaluate phase of the McKinsey model (Edelman, 2010) and both "search" and the "Pre-purchase evaluation of alternatives" step in the EBM model (Blackwell, et al., 2001). Unlike the EBM model, the empirical findings imply that customers iteratively search for information and use the information to compare between different products (see Section 4.2.2[g]).

Five main product information search and evaluation activities are performed by "Mum 1" customers, which include:

- (1) browsing product reviews posted by "strangers" on parenting forums,
- (2) asking questions to "strangers" on forums,
- (3) reading product review or experience sharing posted by friends on WeChat or QQ,
- (4) asking questions to friends via WeChat or QQ, and
- (5) browsing in physical baby product shops (see Section 4.2.2[e] and 4.2.2[g]).

In comparison, "Mum 2" revealed 8 frequent activities:

- (1) browsing product reviews posted by "strangers" on parenting forums,
- (2) carefully reading detailed forum posts published by "Expert customers",
- (3) asking questions to "strangers" on forums,
- (4) reading product review or experience sharing posted by friends on WeChat or QQ,
- (5) asking questions to friends via WeChat or QQ,
- (6) conducting experiments to compare different products and brands,
- (7) browsing in physical baby product shops; and 8).attending parenting courses (see Section 4.2.2[e] and 4.2.2[g]).

As emphasised in the McKinsey model (Edelman, 2010), the empirical findings suggest a high dependency on SM in performing product information seeking and evaluation tasks of the emerging customers (see Section 4.2.2[c]). They value SM as the most significant information source or communication channel. In other words, the pilot study customers' CDJ's are SM-centred. This appears to be because Chinese diaper customers perceive information provided by other customers on or through SM as non-biased. This type of information is generated based on customers' own experiences, instead of brands' and retailers' commercial interests (see Section 4.2.2[b], 4.2.2[d], and 4.2.2[h]). This reason is in line with SM scholars' like Kaplan & Haenlein (2010)'s view.

Other reasons for trusting peers on SM significantly more than businesses are similarities between customers (e.g., they are all new parents) and peer customers' high level of expertise that is revealed in their posts (see Section 4.2.2[e], 4.2.2[f] and 4.2.2[h]). These reasons are supported by Reichelt *et al.*, (2014)'s findings. As a result, the majority of the traditional information sources introduced in the EBM model are not considered significant by the customers anymore (Blackwell, et al., 2001). The EBM model included information sources like people in the physical store, product information provided by brands or retailers in-store or on other media channels, internet forums, opinion leaders, and close social circles.

It can be observed from the two customer groups' product information search and evaluation activity that "Mum 1" group focuses on pragmatically assessing and selecting products, while "Mum 2" endeavours to gain insights of product experiences before purchase. This observation can indicate that "Mum 2" position diaper products closer to the "experience goods" end in the search/experience goods spectrum (Weathers, et al., 2007). They acquire more varied and detailed product experience through either direct experiments or reading peers' in-depth product reviews. This observation can also be considered as supporting Huang *et al.*, (2009)'s finding that SM reduces the gap between customers' decision making behaviours of "search" and "experience" goods. The reduction of gap is achieved by enabling customers to "search" for the "experience" of experience goods posted by peer customers on SM. However, further investigations are necessitated to validate this view.

This study did not discover findings about activities that are equivalent to "consider" stage of the McKinsey model (Edelman, 2010) or the "internal search" activity within the "search" stage of the EBM model (Blackwell, et al., 2001). The "consider" stage and the "internal search" activity suggest that customers search for their personal knowledge kept in memory before pursuing external information sources. The EBM model even especially accentuated the internal search activities based on memories that were formed through customers' exposure to external information sources in the past. Dissimilarly, the two Chinese diaper customer groups' responses in the empirical study laid particular stress on external information seeking especially through SM. However, it can be hypothesised that once customers become more experienced and knowledgeable about diaper products, they might conduct the internal search activity to inform product selection. This hypothesis requires further validation. The implication can be that SM encourages the expansion of external search and reduces internal search

efforts, which aligns with the suggestion of the reduction of the "Consider" stage in the McKinsey model (Edelman, 2010).

### **5.2.1[c] The "purchase" stage**

The empirical findings confirmed the proposal in the McKinsey model (Edelman, 2010) that customers conduct "last minute" information search when they enter the purchase channel prior to transactions, although they major decisions are normally made before they enter the purchase stage (see Section 4.2.2[g]). This "last-minute" information search are mainly enabled by the SM element on the e-commerce sites – the customer generated product review sections (see Figure 76). The brands' or retailers' promotional activities may also influence customers' final product choice (see Figure 76).

However, this activity cannot be considered as an equivalence to the in-store information absorption of customers suggested in traditional consumer behaviour models - EBM model (Engel, et al., 2006; Lecinski, 2011). This is because, in the SM-absent traditional model, the in-store information sources such as sales people, other customers, or marketing materials played a significant role in customer decision making (Löfgren, 2005; Kaplan and Haenlein, 2010). It is different to the downgraded "last-minute" in-store information seeking activities of customers in the SM-centre decision process. Furthermore, in the "last-minute" activities defined in the empirical study, customers initiate the information acquisition, Whereas, in the traditional models, customers tend to be passively influenced by information sources exist in-store. Two indications of how SM impact CDJ can be drawn based these findings. Firstly, aligning with a wide array of literature, SM empowers customers to make decisions with less influence from the brands and retailers (Kaplan and Haenlein, 2010; Labrecque, et al., 2013; Wathieu, et al., 2002). In this situation, the customer can gain greater sense of control, while their decisions can be more beneficial and less risky for themselves (Bettman, 1973; Bhatnagar, et al., 2000; Kim, et al., 2008). Second, even in the "last-minute" information seeking activities, SM act as a key information source as the customer product review section on e-commerce site is the most adopted channel.

In addition, both groups of investigated customers confirmed that they predominantly pay attention to negative product reviews in "last-minute" information search (see Section 4.2.2[g]). This endorses the academic findings suggesting greater influence of negative word-of-mouth (WOM) of products than the positive counterparts on customers' purchase decision making (Lee, et al., 2008; Zhang, et al., 2010; Sen and Lerman, 2007).

### **5.2.1[d] The "product usage and evaluation" stage**

The pilot study, the McKinsey model (Edelman, 2010) and the EBM model (Engel, et al., 2006) all suggest that customer consume, experience and evaluate the products after purchase (see Section 4.2.2[g]). However, an additional finding has been unlocked by the empirical study. The new finding suggest that customers do not stop product information search activity after purchase, but tend to continue it when using and evaluating products. Customers employ the product experience or trial activity itself as another product information seeking and evaluation action, as they believe that direct personal experience provides the most accurate information. This behaviour is more prominently validated by "Mum 2" customers, who tend to compare a wide array of products and conclude advantages or disadvantages to inform future purchase decision making.

In addition to personally conducting product trials or experiments, customers adopt other information sources to assist product evaluation. Both empirical results and the 2 existing models suggest that the (dis)satisfaction senses or questions that customers encounter during usage can trigger them to pursue more information from other external sources (see Section 4.2.2[g]). The empirical findings and the McKinsey model (Edelman, 2010) revealed that the two customer segments mainly acquire product knowledge from or through SM channels (see Section 4.2.2[g]), which was not suggested in the EBM model (Engel, et al., 2006). The empirical data innovatively reveals that Chinese diaper customers search for existing posts on or post questions onto online forums, while ask questions to friends through WeChat or QQ. These details of post-purchase product information acquisition activities were not mentioned in the McKinsey model. The empirical results indicated greater significance of the post-purchase information seeking activities for the pilot customers than the two existing models. This increased importance can be a result of the convenience of information acquisition on SM (Peterson and Merino, 2003; Goldsmith and Horowitz, 2006; Ellison and boyd, 2013), the sector or customer characteristics or other factors, which can be explored in future research.

As the McKinsey model (Edelman, 2010) focuses on the illustration of an ideal CDJ that leads to brand loyalty, it uses the positive terminology "enjoy" to represent customers' product usage / consumption and evaluation activities. However, in reality, customers' product usage experience can be positive, negative or neutral as suggested in the empirical study.

### **5.2.1[e] Product information contribution from customers**

The McKinsey model (Edelman, 2010) used the positive term "Advocate" to describe pilot customers' product opinion sharing activities on SM after usage (see Figure 06). On the contrary, the empirical study identified that customers can share their attitudes of product onto SM in any sentiments (see Section 4.2.2[e]). Negative product experience is even one of the most significant motivation for the 2 studied customer groups to contribute product reviews on SM (other motivations include helping others, receiving financial incentives, whereas the demotivating factors are time consumption, the massive number of already existing product reviews, and lack of social recognition) (see Section 4.2.2[e]). This finding partially aligns with Hu et al., (2006)'s conclusion that merely those who experience high levels of product satisfaction or dissatisfaction are motivated to leave reviews on Amazon.com (for books, DVDs, Music CDs and Videos). The reason why information contribution activities of the investigated customers are not motivated by positive experience requires further investigation.

As how the investigated customers utilise peer customers' product opinion to navigate in CDJ's, their information contribution can inform the peers. From this perspective, SM leveraged the collaborative power among customers and empowered them to make better product decisions based on better information (Munar and Jacobsen, 2014; Labrecque, et al., 2013).

Although the two customer groups did not reveal the great interests of product information provision as suggested in the McKinsey model (Edelman, 2010), another customer group who emerged in the study – "expert customers", tend to post lengthy, comprehensive, and thorough product reviews on forums (see Section 4.2.2[e] and 4.2.2[f]). Overall, the existing product reviews on both forums and e-commerce sites are observed to be in a great number and variety (see Section 4.2.2[e], 4.2.2[g], and 4.1.1[g]). Like customers suggested in the study, they can find answers for most of their questions (see Section 4.2.2[g]). These findings align with the electronic word-of-mouth (eWOM) literatures (Preece and Shneiderman, 2009; Heinonen, 2011; Chen and Xie, 2008). These existing academic knowledge suggest that, albeit the number of customers that read and use product reviews on SM notably overtakes that of those who contribute their opinions (Preece and Shneiderman, 2009; Heinonen, 2011), the impressive abundance of existing customer generated product reviews on SM is also a fact (Chen and Xie, 2008). In comparison, EBM model did not mention about customers' product information contribution activities (Engel, et al., 2006). It implies that the large-scale information



contribution activities among customers can be a particular phenomenon in the SM age (Hajli, 2014).

Overall, the empirical data suggests that the Chinese diaper product customers normally provide tactical product information that they learnt from their own experience to strangers on forums and e-commerce sites, or to friends through WeChat and QQ. Notwithstanding “Mum 2” customer groups' profound product knowledge, they do not tend to share comprehensive posts as “expert customers” do. These details were not presented in neither the McKinsey model (Edelman, 2010) and the EBM model (Engel, et al., 2006). In conclusion, SM significantly facilitated customers' information sharing intention (Hajli, 2014). However, as existing SM or eWOM literatures suggest, this intention may be still moderated by personal characteristics, product typology, personal situations (like time), social relationships and incentives (financial and social) (Ngai, et al., 2015; Correa, et al., 2010; Majchrzak, et al., 2013; Chu and Kim, 2011; Darley, et al., 2010).

#### **5.2.1[f] Activities between product information contribution and the next CDJ cycle**

The empirical findings indicate that, after one cycle of SM-centred CDJ, the “Mum 1” customer group tend to only go through the complete CDJs again if they are not satisfied with the product in use. On the contrary, “Mum 2” customers tend to try a wide array of products by going through the complete CDJ cycles throughout the first 6 months (see Section 4.2.2[d]). According to the EBM model, the CDJs of “Mum 2” customer group can be viewed as variety seeking processes (Blackwell, et al., 2001). The empirical findings suggest that the motivations for “Mum 2” group's variety seeking behaviour are the internal needs to prevent satiation and to fulfill their advanced requirements through discovering the best product (Kahn, 1995). The “Mum 1” customer group do not demonstrate these needs. This finding indicates differences in personal values between different customer groups. It also implies that SM as an information source or an information exchange platform can fulfill “Mum 2” customer group's variety seeking demand. This empirical finding extended the knowledge point of variety seeking in the EBM model to the SM space.

In the McKinsey model (Edelman, 2010), the step following customers' product information contribution is to “bond” with a product. However, in accordance with empirical data, the “bond” situation only occur when “Mum 1” customer group is contented by the present product and when “Mum 2” customer group are pleased by the

product in use after they passed the trialing period (0-6 months after birth-giving) (see Section 4.2.2[d]). In other words, the customers might not be pleased with the current products. In these circumstances, the customers do not "bond" with a brand but look for alternatives. Therefore, the empirical study suggests that the McKinsey model merely represents an ideal scenario for a brand.

The McKinsey model (Edelman, 2010) further suggests that when customers "bond" with the product, they enter a loyalty loop. In the loop, they do not go through the complete CDJ after being triggered, but directly leap into purchase channels to pay for the "bonded" product. The EBM model describes this phenomenon as customers' performance of routinised problem solving or habitual problem solving activities, which are driven by product satisfaction and brand loyalty (Engel, et al., 2006; McCarthy and Perreault, 1993). The empirical findings added more details. The "Mum 1" customer group's behaviour aligns with the EBM model. They tend to compare a narrow array of products by going through the whole SM-centred CDJ's and permanently adopt the most suitable one to switch to habitual problem solving mode (see Section 4.2.2[d]). On the other hand, the "Mum 2" customer group typically compares an extensive variety of products by repeating the CDJ's during the 1-6 months following birth-giving, even if they recognise a product (see Section 4.2.2[d] and 4.2.2[g]). From the seventh month ahead, they are likely to keep using one product and switch to the habitual problem solving CDJ, unless they experience boredom and new problems with the products (see Section 4.2.4). The motivations for "Mum 2" customer group to execute extended CDJ are both product selection and personal knowledge development (see Section 4.2.2[d]) (Michael, et al., 1999). The latter can trigger ongoing information search (Bloch, et al., 1986). As other literatures suggest, it can be the convenience, flexibility, low-cost, information accessibility and information richness characteristics of SM information exchange that enable and facilitate the "Mum 2" customer group to perform the extended SM-centred CDJ (Peterson and Merino, 2003; GoldSmith and Horowitz, 2006; Kaplan and Haenlein, 2010; Ellison and boyd, 2013).

### **5.2.2 Customer empowerment and business disempowerment caused by SM**

Another perspective to interpret the empirical findings of how SM impact CDJ is the empowerment of customers and the disempowerment of the businesses. This perspective draws on Section 2.2.3 in the literature review chapter that covers the customer/business (dis)empowerment effect of the SM.

The findings suggest that the studied customer groups consider SM as the predominant information source and information exchange platform. They extensively adopt SM in their CDJs. This is in line with academic claims of the broad diffusion of SM in individuals' daily lives for consumption (Heinonen, 2011) and information exchange (Xiang and Gretzel, 2010) purposes. The customer groups revealed in the empirical findings that they favour SM, because it allows them to have access to a great volume of non-biased and high quality product information provided by customers that is free from brands' and retailers' commercial interests (see Section 4.2.2[b], 4.2.2[h] and 4.2.2[j]). It can be considered as a consequence of elimination of information asymmetry between customers and businesses enabled by SM (Faraj, et al., 2011; Ellison and Boyd, 2013). Under this circumstance, SM increases customers' perceived benefits of information acquisition by enabling customers to consult more reliable and higher-quality information for better decision making (Schmidt and Spreng, 1996). Its convenience of usage (Patchin and Hinduja, 2010; Alper, 2013; O'Mara, 2013; Iacobucci and Hoeffler, 2016) and information richness (Naaman, 2012) increased customers' capability to seek information while reduced the perceived cost of information acquisition (Schmidt and Spreng, 1996). These effects can further raise customers' motivations of seeking more information proactively. In addition, customers are also facilitated by SM to contribute knowledge via SM (see Section 4.2.2[e]). By doing so, they can earn the sense of helping others, social recognition, and financial incentives.

In this situation, customers are "empowered", as they are equipped with the freedom and capabilities to exchange information (Labrecque, et al., 2013). The credible information source – customer provided product information – is extensively available on SM. SM allows them to search for the existing information or to ask for new answers. They can leverage this to make purchase decisions that can better serve their needs, without being influenced by the businesses (Kaplan and Haenlein, 2010; Labrecque, et al., 2013). It can be also viewed as customers leverage others' product experiences to predict their own for reducing risks of purchase decisions (Jacoby and Kaplan, 1972; Bettman, 1973; Bhatnagar, et al., 2000; Kim, et al., 2008). Oppositely, through sharing their own knowledge and experience, they also affect other customers' decision making, which is more influential than the businesses' marketing efforts (Labrecque, et al., 2013; Kaplan and Haenlein, 2010; Chen and Xie, 2008; Edelman and Singer, 2015). Furthermore, if businesses pay attention to the questions and knowledge shared by the customers, they may adjust products or services to address customers' issues and needs (Cova and Pace, 2006; Füller, et al., 2009; Edelman and Singer, 2015; Roberts and Candi, 2014; Roberts and Piller, 2016). It means that customers can influence businesses' activities.

The empirical findings suggest that, although the amount of information on SM is tremendous, the investigated customer groups did not indicate any frustrations in information navigation (see Section 4.2.2[g]). This finding rejected Park and Lee (2009)'s and Powers, *et al.* (2012)'s concerns of information overload that can be caused by the gigantic information volume on SM. In fact, customers disclosed that they leveraged SM platform functionalities to develop methodologies to search, evaluate and select SM platforms or the specific pieces of information (see Section 4.2.2[g]). These empirical discoveries are in line with Hannon, *et al.* (2010)'s, Bu, *et al.* (2010)'s, Guy, *et al.* (2010)'s and Xiang and Gretzel (2010)'s claim that most of the SM platforms are equipped with functions that simplify information navigation. This finding consolidates the view of the "empowerment" of customers in the SM-centred CDJs.

On the other hand, as both empirical study and literatures emphasise, the power shifts towards customers means the "disempowerment" of businesses (Labrecque, *et al.*, 2013; Kaplan and Haenlein, 2010). In accordance with empirical data, customer almost abandoned any brand/retailer-generated product messages. In consequence, Firm A sensed the loss of control to customers' decision making process and underperformed in the market, so it sought consultations to the researcher (see Chapter 3 Methodology).

One noteworthy detail from the empirical findings is that the Chinese diaper product customers directly perceive business-provided product information as unreliable, hence they completely disregarded this type of information (see Section 4.2.2[b] and 4.2.2[d]). Instead, they seek information from peers or conduct experiments by themselves to predict the true performance of the products and form their expectations (see Section 4.2.2[b], 4.2.2[d], 4.2.2[e], 4.2.2[g]) (Spreng, *et al.*, 1996; Coyne, 2004) (they also learn how to conduct experiments and evaluate products from peers through SM). As the two customer groups indicated that these 2 information sources provide reliable information (see Section 4.2.2[d], 4.2.2[e] and 4.2.2[g]), the implication is that their product expectations can be very close to the actual performance of the product. This detail implies that customers' decision making is based upon quasi-factual and in-depth understanding of the product quality even before product purchase or usage. In this situation, if a product or a brand fail to allure customers, it is more because the product quality does not satisfy customers and less due to the unappealing marketing messages (Tse and Wilton, 1988; Spreng, *et al.*, 1996; Khalid and Helander, 2006; Xu, *et al.*, 2009).

For instance, in the case, the "Mum 2" segment of customers disclosed that they purchase products from Japan (see Section 4.2.2[i]). It is because, based on peers'

product reviews, they expect that the performances of products in the Chinese market are not sufficiently competent. Therefore, it is the capability of customers to foresee the real performances prior to purchase that disempowers businesses. This ability is enabled by SM. In this situation, if the product does not perform well, customers can "anticipate" it before purchase from other customers or through experiments. Even if the marketing messages are attractive, the customers are capable to discover the truth and turn to alternatives. One may argue that customers like "Mum 2" might purchase the less qualified products for trial to fulfill their variety seeking and knowledge acquisition needs (see Section 4.2.2[d]). However, based on trialling experiences, they would still abandon the unqualified products. Consequently, it can be inferred that it is crucial for businesses to enhance the actual performances of their products to motivate product adoption (Spreng, et al., 1996; Herrmann, et al., 2000; Xu, et al., 2009).

### **5.2.3 Summaries**

In summary, the triangulation of empirical findings and literatures suggests the centric position of SM in Chinese diaper product customers' CDJ. Specifically, the study confirmed that the pilot customer groups consider SM as the most significant information source, information contribution destination and information exchange platform. Facilitated by SM, the investigated customer groups heavily rely on product information shared by peers when selecting products, whereas almost abandoned brands' and retailers' marketing materials (Chen and Xie, 2008; Edelman, 2010). Also, as discovered for the first time in this study, SM encouraged customers to proactively acquire information almost in the whole CDJ, instead of only during the information search and evaluation stage (Edelman, 2010; Engel, et al., 2006). For those who do not merely aim at product selection, but also product expertise development like "Mum 2" customer groups, SM provided sufficient knowledge resources (Engel, et al., 2006). Moreover, the empirical study added findings that SM provided platforms for customers to contribute information for a series of motivations. They are interested to benefit others, while fulfilling altruistic, social recognition and incentive needs of themselves (Sen and Lerman, 2007; Bronner and de Hoog, 2011). In summary, SM significantly increased customers' proactivity in information exchange in their CDJ.

The empirical findings suggested that customers' empowerment and businesses' disempowerment can be considered to be the consequences of the impact of SM on CDJ. Thanks to the convenience of SM (Patchin and Hinduja, 2010; Alper, 2013; O'Mara, 2013; Iacobucci and Hoeffler, 2016), customers are empowered to proactively exchange information between each other. This enabled them to determine the factual

performance of the products even before product purchase and usage, while without being affected by businesses' commercial activities (Edelman, 2010; Edelman and Singer, 2015). Therefore, they are empowered to make better purchase decisions and experience lower purchase risks (Mitra, *et al.*, 1999; Peterson and Merino, 2003; Labrecque, *et al.*, 2013). As it is more challenging for businesses to influence customers, if their products do not perform adequately well to win positive word-of-mouth among customers on SM, they may not be even chosen for trial (Kaplan and Haenlein, 2010 ;Edelman and Singer, 2015). This business disempowerment phenomenon reminds businesses the significance of creating products of quality (Spreng, *et al.*, 1996; Herrmann, *et al.*, 2000; Xu, *et al.*, 2009). In other words, the studies about Chinese diaper customers' CDJs does not provide insights on how SM impact CDJ, but also indicated a suggestion to businesses' FEI activities. The indication is that businesses should enhance their FEI activities in order to strengthen product development as a response to the SM-centred CDJs. As literatures merely provided suggestions from the rear-end NPD activities (market launch) perspective, this study contributed a new angle. More discussions of this perspective can be found in the next Section (5.3.1).

The empirical evidences were collected through focus groups studies in the diaper product sector in China in 2014 as a part of a real-life industrial project. It enabled the conceptualisation of 2 complete CDJ's in the sector where the customer behavior was almost never scholarly investigated before. While the findings certainly added sector specific details and novel discoveries to existing knowledge, the generalisation of the knowledge necessitates further research in different sectors and social contexts or investigations in a more general background. Additionally, as the SM environment evolves in high velocity (Van Dijck, 2013), new data or longitudinal evidence collections can add value to the knowledge in the future.

### **5.3 The Implications of SM-Centred CDJs on Research Activities in the Front-end of Innovation (FEI)**

This chapter draws on literatures mainly in the FEI, design, consumer behaviour and SM domains to develop in-depth and critical discussions about the impact of SM-centred CDJs on research activities in the FEI. It readdresses the second research question: "How does SM-centred CDJ influence businesses' customer research activities in FEI and why?" based on both empirical findings and the existing knowledge. The discussions focus on findings presented in section 4.1 and 4.2.1.

### **5.3.1 SM-centred CDJ increased the significance of research activities in FEI for NPD success**

As discussed in Section 5.2.2 and 5.2.3, the SM-centred CDJs urges businesses to make greater efforts in the development of products with adequate quality. In the SM-centred CDJs, customers tend to construct product expectations before purchase almost consistent with actual product quality. It is achieved through consult peer customers' opinions which they acquire from or through SM, or conduct experiments that they learn how to from others through SM (see Section 4.2.2[b], 4.2.2[d], 4.2.2[e], 4.2.2[g]) (Spreng, et al., 1996; Coyne, 2004). Therefore, they can preview the actual product quality regardless of businesses' marketing efforts and only purchase the competent ones.

An observation from the study indirectly endorsed this view. Prior to the study, Firm A merely endeavoured to renovate their market launch activities on SM to face the CDJ changes of customers caused by SM. This attempt did not improve their products' market performances. On the contrary, after the focus of the project was converted into product innovation, Firm A was able to introduce new product design to the market based on the identified customer needs, which has subsequently tripled their revenue (due to confidentiality agreement, it is impossible to provide further information in this dissertation). While literatures suggest that both actual product quality and quality of market launch activities affect product market performances (Langerak, et al., 2004), findings of this study, in the context that customers' decision making activities are SM-centred, revealed the predominant role of product quality in product market success. This finding is coherent with the claim of the design discourse that product design significantly drives a business's market success (Black and Baker, 1987; Hart, et al., 1989; Brown and Katz, 2011; Verganti, 2013; Kelley, 2007).

The implication is that SM-centred CDJ especially emphasised the role of customer research in FEI in the pursuit of product market performance success for businesses. Quality functional deployment (QFD) literatures in the NPD domain has long established that product quality is determined by product specifications/requirements, while finely defined product specifications/requirements need to be based on customer needs (Hauser and Clausing, 1988; Griffin and Hauser, 1993; Matzler and Hinterhuber, 1998; Herrmann, et al., 2000; Chan and Wu, 2002; Younesi and Roghanian, 2015). The strong user-centred manifesto recently raised in the design domain also support this stance (Rathore, et al., 2016; Wilkinson and De Angeli, 2014; Brown and Martin, 2015). In addition, scholars commonly agree that the definition of product specification grounded

in customer needs is the outcome of the FEI (Koen, et al., 2001; Reid and De Brentani, 2004; Kim and Wilemon, 2002; Cooper, 1990; Eppinger and Ulrich, 2015). Therefore, the predominant role of product quality in the determination of product market performances implies the imperativeness of FEI and the importance to fulfill customer needs. Since it is the SM-centred CDJ phenomenon that raises the significance of product quality, it can be concluded that the SM-centred CDJ increased the importance of FEI and the fulfillment of customer needs. As customer needs are identified through customer research activities in the FEI, it can be inferred that the SM-centred CDJ especially demand businesses to enhance customer research in FEI in the pursuit of product market performance success.

Therefore, unlike the majority of the literatures that focuses on providing suggestions on rear-end market launch activities in the NPD during the discussions of the influence of SM (e.g., Edelman, 2010; Hoffman and Fodor, 2010; Tuten, 2008; Kaplan and Haenlein, 2010; Culnan, et al., 2010; Kenly, 2012; Gayo-Avello, et al., 2013; de Vries, et al., 2012; Tucker, 2014), this study especially emphasises the significance to enhance front-end activities for businesses to respond to the SM-centred CDJ phenomenon. It addresses an emerging research area of the application of SM in the FRI of NPD as suggested by a few scholars (e.g., Roberts and Candi, 2014; Roberts and Piller, 2016). However, this is not to neglect the significance of enhancing digital marketing practices in response to the SM environment. Successful market launch is also a key factor of successful market performance success, which contributes to NPD success (Langerak, et al., 2004; Rogers, 2010; Edelman and Singer, 2015).

### **5.3.2 New customer research opportunities and challenges brought by SM-centred CDJ**

In accordance with the findings, the SM-centred CDJ has not merely emphasised the significance of FEI focused customer research activities in a business's NPD success. It has also provided new customer data and customer research space to product producers. The following sections discuss the associated benefits and challenges brought by these new customer research opportunities.

#### **5.3.2[a] The benefits of leveraging existing customer data on SM in FEI focused customer research**

The findings presented in Section 4.1 revealed that the SM-centred CDJ provided a new type of customer data that can inform FEI focused customer research. The type of data



is customer generated product reviews that are existing and publicly accessible on SM platforms. In the studied infant diaper product sector in China, the main SM platforms are online parenting forums and the customer review section of e-commerce sites (see Section 4.2.2[c]). Literatures also recognised this type of data as a component of user-generated-content on SM and the potential business usefulness of it (Pan and Zhang, 2011; Bilgram, et al., 2011; Vickery and Wunsch-Vincent, 2007). The findings confirmed the availability of massive quantities of "ready-to-use" customer data on SM (see Section 4.1.1[g]). It can be a significant factor that enabled the successful development of new product concept of Firm A, as NPD literatures suggest that successful NPD requires an enormous quantity of information (Zhang and Doll, 2001; Verworn, et al., 2008).

It was clearly suggested in the findings of that new insights about customer needs can be unlocked through the collection and analysis of this new type of customer data – customer-generated product reviews that are publicly accessible on SM platforms (see Section 4.1 and 4.3.2). These insights inspired the researcher to suggest new product ideas to Firm A, which were successfully brought to the market. In accordance with FEI literature, it was the increased understanding of customer requirements that reduced the FEI uncertainty, which contributed to the NPD success (Zhang and Doll, 2001).

This study involved the SM text-mining method as a customer research approach that utilised customer generated product reviews as the source of information. SM text-mining uses computing algorithms to automatically identify meaningful information from unstructured textual data that exists on SM platforms (He, et al., 2013; Petz, et al., 2014). The few literatures that focused on the implementation of SM text-mining and the utilisations of customer-generated product reviews acknowledged their effectiveness in yielding beneficial product insights for the FEI purpose (Carr, et al., 2015; Bilgram, et al., 2011; Xun and Reynolds, 2010; Bello-Orgaz, et al., 2016; Roberts and Candi, 2014; Roberts and Piller, 2016). Findings of this study are consistent with this claim. However, the majority of existing studies about the new type of data and the new research method concentrate on providing advice for activities in the rear-end of innovation (e.g., Catterall and Maclaran, 2002; Kozinets, 2007; Kozinets, 1998; Masten and Plowman, 2003; Archak, et al., 2007; Zhang, et al., 2012; Nassirtoussi, et al., 2014; He, et al., 2013; Petz, et al., 2014; Yang and Fang, 2004; Lee and Bradlow, 2011; Tirunillai and Tellis, 2014; Berezina, et al., 2016; Cuomo, et al., 2016). Hence, this study made valuable contribution to the literatures, as it focused on the FEI activities.

In addition, the use of existing and automatically generated data enabled information and financial resource optimisation (see Section 4.1.1[b]). First, as literature recognised, this action does not only mean saving the efforts that businesses need to devote in creating data, but also mean that the automatically generated data will not be taken for granted (Christensen, et al., 2017; Heatley, 2017). Furthermore, comparing with the focus groups study conducted, the use of existing data also eliminated the needs and costs of, for example, customer recruitment, research room rental, and international travel (Chayko, 2008). However, existing literatures in the text-mining application domain do not highlight its cost advantage, probably because of the high demand of investment in technology application and advancement (Ramya, et al., 2017).

The validity of customer product reviews in revealing customer product opinions are identified from the text-mining studies. The first round of text-mining studies applied algorithms to automatically detect the sentiments of the keywords (see Figure 26 in Section 4.1.1[a]). The researcher was able to categorise the keywords into positive or negative sentiments. This finding can be considered as aligned with Hu *et al.* (2006)'s conclusion that merely those who experience high levels of product satisfaction or dissatisfaction are motivated to leave reviews on Amazon.com. Based on this finding, Hu *et al.* (2006) warned that the average sentiment acquired from e-commerce site cannot reveal the actual attitudes of customers to the products, as neutral opinions are likely to be absent. However, the sentiment results of the first round of text-mining research might be a consequence of manual data interpretation (see Section 4.1.1[f]). Additionally, the SM-centred CDJ study in this research (findings presented in Section 4.2.2 and 5.2.1[e]) even suggests that negative product experience is one of the most significant motivation for the 2 investigated customer groups to contribute product reviews on SM, but not positive experiences. This finding indicated a more biased picture of customer product opinion on SM. However, as the purpose of FEI focused research is to identify customer problems and unmet needs, it solely requires the data that can provide relevant problems or needs insights (Atuahene-Gima, 1995; Verworn, 2009). Overall sentiment is not of concern. A data set that is concentrated with information about customers' problems and unmet needs is even more informative. Therefore, customer-generated product reviews on SM in revealing customer product is valid to inform FEI activities.

Moreover, the findings from the SM text-mining studies revealed the remarkable efficiency of text-mining methods (see Section 4.1.1[b] and 4.1.2[b]). The first round of text-mining studies collected 394077 words and phrases from SM and identified 1380

keywords and phrases within seven days. With five days of data analysis following the data collection, insights about customers' unmet needs are identified. The second round was even more efficient, which crawled 688946 words and identified 5308 keywords with their associated keywords as “collocates” (1002) and contextual sentences as “concordances” (520) through word-by-word analysis of 737 pages of product reviews of within eight days. The findings about the high efficiency of the text-mining technique are consistent with established knowledge on text-mining methods that recognises its capacity of automatically collecting and processing enormous textual data sets rapidly (He, et al., 2013). It is also congruent with literatures that suggest the cognitive advantage of text-mining and the validity of the its application in the identification of new product insights on SM platforms (Carr, et al., 2015; Christensen, et al., 2017; Heatley, 2017). For instance, Christensen, et al., (2017)'s study successfully detected product insights from 3000 messages collected from a Lego online forum (Antorini, 2007).

Overall, these benefits of leveraging existing customer data on SM in FEI focused customer research are derived from two aspects: (1) the quality of the new customer data, and (2) the research methods that make use of the new data. It can be grounded in modelling of information flow in the FEI that was initiated by Rogers (1962, 2010) and adopted by De Brentani and Reid (2012). This modelling proposed that 2 factors that determine how information flows in FEI – the characteristics of the information and the methods that move it forward.

### **5.3.2[b] The challenges of leveraging existing customer data on SM in FEI focused customer research**

Despite the positive business results enabled by the use of already existing customer data on SM, the findings yielded more challenges and areas of improvement. It is reasonable as the knowledge of this domain is at the early stage of development (Christensen, et al., 2017; Roberts and Candi, 2014). Like the benefits, the challenges are also originated in the new type of data and the methodology of collecting and analysing it.

#### ***The challenges of enabling radical innovation***

The findings demonstrated that the utilisation of the customer-generated product reviews provided insights for incremental innovation (see Section 4.1.1, 4.1.2 and 4.3.2). Product needs of customers are identified from both rounds of text-mining studies (see Section 4.1.1[c] and 4.1.2[c]), whereas intrinsic needs are absent (product needs reflect the expectation of customers on the product performances that can help them achieve the

ideal state, while personal/intrinsic needs refer to the gap between customers' current internal state and the ideal scenario, which can be physical or psychological discomforts) (Bruner and Pomazal, 1988, Van Kleef, *et al.*, 2005). According to literature, the identification of customers' personal needs can contribute to radically innovative product idea development, while product needs normally enable incremental product innovation. Therefore, not being able to discover personal needs of the customers prevented the SM text-mining studies to inspire radically innovative product development.

Another reason of why the SM text-mining studies did not contribute to radical innovation can be that the customer-generated product reviews are incapable of revealing latent needs of the customers. In definition, latent needs refer to the needs that customers cannot articulate (Slater and Narver, 1999). Hence, it could be inferred that the needs expressed by customers in their product reviews should not be latent needs. Also, researchers proposed that the identification of latent needs is normally not based on customers' experience or opinions of current products (Matthing, *et al.*, 2004). As the customer data that were adopted in the SM text-mining studies were initiatively and consciously posted by the customer based on their product usage experience, it is unlikely that they can indicate latent needs of the customers. In fact, the findings from the focus groups studies also supported this argument (see Section 4.2.1[i]). The focus groups customer research activity also revealed incremental product innovation insights. The reason can be that the questions asked to the customers in the focus groups were focused on their opinions of existing products from Firm A, Brand B, and Brand C, which can only unlock expressed/explicit needs of the customers instead of latent needs (Slater and Narver, 1999). The context was that Firm A determined to take an incremental approach to new product development and insisted on merely asking product evaluation questions in customer research.

Apart from the nature of the data, the research methods application can be another antecedent of the incrementalism of the product insights. As the findings demonstrated (see Section 4.1.1 [c], 4.1.2[c] and 4.3.2), the implementation of text-mining did not enable the development of an in-depth understanding of the customers. It is probably because the study provided extracted fragments of information as keywords, phrases and sentences, which are only about customers' product opinions. In contrast, both FEI and design scholars have been proposing in recent years that, for deeply understanding customers, product researchers need to adopt an ethnographic approach that involves immersive observations of and in-depth conversations with the customers (Brown and others, 2008; Meyer, *et al.*, 2016). A well-conducted ethnographic research of can unlock

latent needs of the customers through a contextualised and detailed understanding of customers.

The fourth reason is that, the text-mining studies included product reviews from general customers of the Brand A. However, lead user theory pinpointed that customer involvement in FEI that targets at the development of radically innovative solutions should focus on lead users instead of general users (Von Hippel, 1986). As Firm A was not aware about the lead user segment when the study was designed, they study could not specially target at the lead users. However, it was this study that discovered the potential lead user segment for Firm A as the “expert customers” (see Section 4.2.2[f]). As a suggestion, Firm A could endeavour to finalise the segmentation of “expert customers” and include them in future FEI efforts for radical product innovation purposes.

The incrementalism of the product innovation outcome can be ultimately a consequence of the short-term market challenge of Firm A, which was to rapidly win a fierce market battle within the current product category (see Chapter 3). According to NPD literatures, intense market competition usually resides in incremental innovation, while radical innovation is more effective in the acquisition of long-term market advantage (Atuahene-Gima, 1995; McDermott and O'Connor, 2002). Also, whereas scholars proposed 2 dimensions of radical innovation – entering new market and bringing to life breakthrough technology, neither of them was the target of this project (Herstatt, et al., 2004; Koen, et al., 2014).

### ***The significance of careful research design***

The analysis of the findings indicated, although The SM-centred CDJ phenomenon provided firms with existing customer information on SM that is accessible, it does not automatically fulfill business goals. Strategic planning of what data to collect, how and where to collect them, and how to make sense of them are necessary prerequisites. For example, based on the learning gained from the first round of text-mining, the second round segmented data collection, crawled contextual data (context sentences as “concordances”) and applied computing languages to make sense of keywords (by identifying associated words of each keyword as “collocate”) (see Section 4.1.2[a] and Section 3.3.3[c]). The improvements of research design enabled the second round of text-mining to reveal more accurate and in-depth information (see Section 4.1.2[a] and 4.1.2[c]). This finding aligns with scholars' reminder that the existence of an enormous amount of data does not automatically benefit businesses until they are leveraged through careful collection and sense-making (Harford, 2014; Labrinidis and Jagadish,

2012). It is also supported by FEI literatures that, not only the nature of information, but also the approaches of information processing determine the outcome of FEI. From the information hierarchy perspective (data-information-knowledge), unless these data are strategically transferred into knowledge, they cannot inform business activities, or may even not mean anything (Ackoff, 1989; Bellinger, et al., 2004; Sagiroglu and Sinanc, 2013).

### ***The benefit of external collaboration***

The findings of the case study suggest positive influence for a business to collaborate with external partners (like the research) when attempting to utilise the new type of data (customer product reviews on SM) and new type of customer research approach (SM text-mining). Through the collaboration with the researcher, Firm A benefited from the refinement of project aim, the effective (yet improvable) use of SM as a data source and research platform, and the establishment of new research capabilities. Additionally, the text-mining studies could not be executed without the partnership with an external market research firm and two 2 linguistics and natural language processing researchers for their technical resources (see Section 3.3.3[a]). The FEI domain demonstrates a generally positive stance of external collaboration, as it extend the resources and capabilities of the firms to develop new solutions (Chesbrough, et al., 2006; Rohrbeck, et al., 2009; Braun, et al., 2011; Kim and Wilemon, 2002). This mindset is also congruent with the open-source and collaborative cultures that flourish on SM (Romero and Molina, 2011; Harrison and Barthel, 2009; Hamari, et al., 2015; Tsay, et al., 2012; Razmerita, et al., 2014; Van Dijck and Nieborg, 2009; Kessler, 2013; Kaplan and Haenlein, 2010).

### ***Considerations of privacy and research ethics***

Text-mining customer-generated product reviews on SM requested consents to the SM platforms but not the customers (see Section 3.3.3[b] and 3.3.3[c]). In accordance with the legal terms and conditions of the involved platforms, the intellectual property of the contents is transferred to the SM operator once customers publish them onto the platforms (Babytree.com, 2017; JD.COM, 2014). The execution of the researches was hence legally appropriate. Therefore, the request of consents of data usage from customers was not necessary. The researcher also disguised any information that can reveal the customers' identifies before data analysis. In the literature, research ethics of including SM data is one of the central debate due to the new research methods and environment brought by SM and the concerns of privacy violation from general public (Boyd, 2008; boyd, 2010; Boyd, 2010; Kietzmann, et al., 2011; Smith, et al., 2012; Kozinets, 2010; Kozinets, 2007). The main debate concentrated on the adoption of

existing data on the web without interaction with individuals, like the SM text-mining approach. It is grounded in the view that the contents on SM are publicly accessible and the use of them is authorised from the SM platforms based on terms and conditions that users agreed on while signing up (Zimmer, 2010). According to, the federal regulation of the United States for instance, pure observational researches that do not involve interaction with individuals are considered to be without human research subject (Moreno, *et al.*, 2013). In this case, the consents are not required. However, Kozinets (2010) argued that, unlike observational research involving researchers' physical presence that automatically inform observation subjects the existence of the researcher, the researcher can be completely invisible in online observation. Hence, the ethics of pure observation online can be questionable. Because of the novelty of this topic, further researches and discussions are needed to draw more concrete conclusions or to provide better advice.

To summarise, whereas advantages that were discussed in the previous section (Section 5.3.2[a]) are mainly originated from the nature of the customer-generated data that were available on SM, the challenges were predominantly inferred from the research methods that were used to study the data. This observation emphasised the significance of the methodological design of the research activities that aims at benefiting from this emerging type of data.

### **5.3.2[c] SM-centred CDJ provided new research space for FEI**

The researcher noticed the new space that is provided by SM for customer researches that involve direct communications between businesses and customers, like SM co-creation or digital ethnography (see Section 3.1, 3.3.2, and 4.3.2[a]). This notion was inspired by the literatures and customers' SM-centred information exchange (see Section 4.3.2[a]). In accordance with the literature, while businesses have long been benefited from customer involvement in the FEI process (Von Hippel, 1986; Olson and Bakke, 2001; Chatterji and Fabrizio, 2014), SM provided platforms and functionalities for businesses to create and maintain more flexible, continuous, and multi-media interactions with a wider range of customers (Sawhney, *et al.*, 2005, Chan, 2015; Faraj, *et al.*, 2011; Alper, 2013; Ellison and boyd, 2013). It also eliminates the expenses on travels and research studio rental (Whiting and Williams, 2013), while eases data recording by archiving any participants interactions automatically. In addition to academic findings, these benefits are also identified through the analysis of existing business examples (see Chapter 2).

However, decision of omitting SM co-creation or digital ethnography in this study and prioritising SM text-mining was made (see Section 3.3.2). The reasons include that resources were limited, while there are more existing studies of the application of SM co-creation or digital ethnography in FEI than SM text-mining. Another rationale is that, as SM co-creation or digital ethnography are unfamiliar to Firm A, it caused the concern of high uncertainty (see Section 3.3.2). This uncertainty was considered to be risky for Firm A's target – to succeed in the development of new product concepts that recover and advance Firm A's market performance. Similarly, literatures also indicated challenges and risks of conducting customer researches on SM platforms. For example, the design and moderation of research activity in the newly appeared SM environment is likely to demand new skills from the product researchers (Antorini, et al., 2012; Martini, et al., 2014). Poor preparation and execution may not only yield poor customer insights, but also result in catastrophic influence on the business image (Hoyer, et al., 2010; Gebauer, et al., 2013) and offend customers' rights (Xun and Reynolds, 2010; Kozinets, et al., 2014). However, this research did not involve any empirical studies that involves direct communications with customers through SM platforms, the discussions above were merely indicative. Further empirical studies can contribute to the literature on this topic.

A potential conclusion is that the new research space created by the SM-centred CDJ carries both new opportunities and new uncertainties for FEI-focused customer research activities. To leverage the opportunities and mitigate the uncertainties, businesses necessitate to develop new skills and cultivate new capabilities (Roberts and Piller, 2016). For example, in this research, an action was taken by the business following the advice of the researcher to establish new capabilities. The action was to conduct traditional offline focus groups studies but involve digitisable research tools that can be used in SM platforms based customer researches (see Section 4.2.1[c], 3.3.2 and 3.3.4[b]). Additionally, literature also suggests that firms can "migrate" their already established research skills and strategies to adapt to the SM environment (Hoyer, et al., 2010; Roberts and Candi, 2014; Füller, et al., 2009). For instance, experiences of the questions design, facilitation, tool design, and recruitment methods that were gained in this study can be utilised to the planning of future SM focus groups or co-creation studies.

### **5.3.2[d] The benefits of adopting a blended research design**

This study involved multiple customer research activities with varied data collection or analysis methods, different data sources and research spaces to pursue a successful FEI outcome. This blended research design allowed the corroboration of different methods and data types, while leveraged of distinctive advantages.



For instance, the text-mining studies enabled the meaningful use of a massive amount of customer data on SM, which was beyond the human recognition capability. Both computing methods and human analysis were adopted to extract insights from the data. It utilised the data processing or cleaning capacity of the machine, while deepen the insights through human comprehension (see Section 4.1.1[a]) (Maheshwari, 2017). The truly in-depth understanding was gained through offline focus groups, which allowed the project team to directly communicate with customers and ask follow-up questions, as well as observe the participants' behaviour (see Section 4.2.1[e] and 4.2.1[h]). It also provided learnings about, for example, the significance of facilitation and digitisable research tools design for SM platform based future research activities (see Section 4.2.1[c] and 4.2.1[f]). Additionally, as the involvement of SM was a new practice for Firm A, the offline focus groups study balanced their perceived uncertainty level of project, as it was a familiar information processing method for the firm (Zhang and Doll, 2001).

This blended design of the customer research activities in FEI and the successful outcome agreed with innovation scholars' suggestions of involving multiple information sources, types and sense-making methods in the FEI (Kim and Wilemon, 2002; Zahay, et al., 2004; Verganti, 2013). It increases the richness of the information, while the richer the information an organisation make use of in the FEI, the higher capability it has to tackle uncertainty of the project. However, the complexity of information also demands robust information processing ability.

### **5.3.2[e] The benefits of visual based research tools (VBR)**

The findings revealed the significant facilitation role that visual based research (VBR) tools played in the focus groups customer research (see Section 4.2.1[c]). The use of VBR tools enhanced the efficiency of the data collection. It allowed all participants in the same session to provide information simultaneously, while leveraged the visual displays and colour or shape coding scheme to facilitate customer participants to provide rich details. It facilitated all participants to share their opinions. Third, the VBR tools ensured that significant questions are not missed in the research sessions. It made the data collection structured, which also eased and enhanced the robustness of data analysis. Finally, the design of the tools in a digitisable format enabled the researcher to pre-test it for future implementation of them in SM-based research sessions.

Tool usage for performance enhancement is extensively discussed in the literature. However, the discussions are mainly focused on the customer research data synthesis

and idea or concept generation activities (e.g., Koen, et al., 2002; Shah, et al., 2000; Shneiderman, et al., 2006; Wang, et al., 2010; Burroughs, et al., 2011; Caballero, et al., 2014; Kolko, 2011; Stickdorn, et al., 2011). Using visual templates to facilitate the execution of customer research sessions to collect customer data is not yet an established topic in the academia. Therefore, this study added significant findings and knowledge to the literature, while suggested new research area. Future studies can investigate how and why visual templates can optimise customer research activities. How to adopt visual tools in SM-based customer research activities can also be explored.

### **5.3.3 Summaries**

Through the triangulation of empirical findings and existing theoretical knowledge, this section provided in-depth discussions about the implications of SM-centred CDJs on Research Activities for customer research activities to inform product ideation in the FEI. It proposed the findings that the SM-centred CDJs increased the significance of the FEI focused research activities among factors of NPD success. It further indicated benefits and challenges that the SM-centred CDJ phenomenon brought to the research activities in FEI from both new information sources and new information processing methods perspectives. These findings contributed new academic knowledge and pragmatic suggestions for businesses.

In accordance with the findings, if businesses appropriately integrate SM in their FEI focused customer research activities, they can be re-empowered (see more discussions about customer empowerment and business dis-empowerment in Section 5.2.3) (Labrecque, et al., 2013). Additionally, if decent consideration of research ethics is conducted in the research design, customers can be also empowered through the expressions of demand to the business (Hoyer, et al., 2010; Rotman, et al., 2011; Bertot, et al., 2012; Ellison and boyd, 2013). From this perspective, the SM-centre CDJ provided new opportunities of FEI-focused customer research that can benefit both businesses and customers.

## 6 CONCLUSIONS

### 6.1 Introduction

This study presents a unique investigation of an emerging phenomenon: the social media-centred customer decision journey (SM-centred CDJ) and its impact on the customer research activities to inform product ideation in front end innovation (FEI) within the new product development (NPD) process. This chapter presents the contributions, limitations, future research directions, and the final conclusions of this study. The following section (Section 6.2) re-assesses the findings of the research aims, objectives, and questions and draws conclusions from each. This leads to the pinpointing of the contributions and limitations of the study and recommendations for future research in Section 6.3, 6.4, and 6.5 respectively. The last section (Section 6.6) concludes the chapter and the thesis as a whole.

### 6.2 Responses to Research Questions

The research was established to explore, describe and explain the impact of SM on CDJ and the implications of the SM-centred CDJ in terms of customer research activities in FEI. To fulfil this aim, 4 objectives and 2 research questions were targeted in this study. The first question was explored through the achievement of the first, second, and fourth objectives, while the findings of the second question was addressed by the third objective. This section presents a summary of findings and conclusions pertinent to each question consecutively.

#### 6.2.1 Responses to Research Question 1: How and why do customers access and employ social media (SM) in their “decision Journey”?

This research question emerged from the lack of in-depth understanding of how SM affects and is being adopted in customers’ decision making process, which was identified from the reviewing of literatures. The context is set in the infant diaper product sector in China and the young parents as the customer groups. Building upon the extensively adopted customer decision process model - EBM model (Engel, *et al.*, 2006), the SM-focused McKinsey CDJ model (Edelman, 2010), and the literatures about “customer empowerment by SM” (Labrecque, *et al.*, 2013), this study unlocked in which ways CDJs are influenced by SM and the potential reasons.

Findings of this study proposed that the customers’ “decision journey” is SM-centred. The studied customers demonstrated significant dependency on SM for product information

exchange, whereas almost abandoned other traditionally recognised sources or channels (like TV). Furthermore, the information search actions of customers extended beyond the traditionally defined “search” stage. Under the impact of SM, customer proactively acquire information from external sources also in the “purchase” and “post-purchase” stages of their CDJ. On the other hand, the internal information consideration activity based on their memory was identified to be not vital. SM also facilitated customers’ product information contribution activities, although customers’ motivation of information contribution is lower than information acquisition. The result is an enormous amount of product reviews publicly exhibited online, which can provide answers to the majority of customers’ questions for not only product selection, but also variety seeking and expertise development purposes. It can be considered that SM highly increased customers’ perceived benefits, capabilities and motivation of external information search for product purchase decision making and for contributing information to help others. In this situation, customers are empowered by SM to make better purchase decisions, gain knowledge, and assist others through acquiring and providing information of “factual product performance”. In contrast, businesses are disempowered as it can no longer effectively influence customer decision making through market launch activities.

The reasons behind customers’ behavioural changes and power position switch triggered by SM can be twofold. The first factor identified in the study was that customers appreciated the peer customer-provided product reviews thanks to its independency from the producers’ or retailers’ market launch actions. As user-generated contents and participatory culture are 2 dominant features information sharing on SM, (Vickery and Wunsch-Vincent, 2007), it can be inferred that it was the information sharing characteristics of SM determined its impact on CDJs. Another factor was the convenience of information exchange on SM, which is free from location and time limitation, while supported by information search, selection and provision features in the SM platform design. For more details, please see Chapter 4 and Chapter 5.

### **6.2.2 Responses to Research Question 2: How does SM-centred CDJ influence businesses' customer research activities in FEI and why?**

This question was emerged from a significant observation from literature review that the researches about SM-centre CDJ in the business context focuses on its impact on and adoption in the rear-end of innovation market launch activities of new product development (NPD). Hence, this study endeavours to explore how might the SM-centred CDJ affect FEI.

This study, for the first time, indicated that the SM-centred CDJ raised the significance of customer research activities in FEI in the whole NPD process. It is because, supported by peer customers' product reviews on SM, customers make purchase decisions based on a "preview" of the actual product performances, instead of producers' or retailers' market launch efforts. In other words, the adoption of a product is almost merely triggered by its quality that can fulfil customer needs. In this situation, businesses are demanded to enhance their customer research activities in FEI to be re-empowered in the SM era.

The study also confirmed that the SM-centred CDJ provided businesses valuable opportunities of FEI-focused customer research enhancement through the availability of a vast volume of existing data, a series of new research methods, and new research space on SM platforms. However, due to the newness of these opportunities, various of challenges also co-exist. This study identified these challenges and provided learnings and suggestions for further academic investigations or industrial trials. More details can be found in Chapter 4 and Chapter 5.

### **6.3 Contribution to Knowledge**

This research contributes new knowledge in the following six areas.

**(1) A synthesised and enhanced customer-decision model** - the study brought together the academically recognised EBM consumer decision process model with the industrial consultancy cases backed McKinsey CDJ model through systematic comparison and synthesis of complementary characteristics. It extended the discussion of the EBM model, which was established based on individuals' offline purchase behaviour, to the context of SM and industrial application. Meanwhile, it further introduced the McKinsey model to the academic discourse and aligned or compared it with existing theoretical concepts. This action added knowledge to the literature.

**(2) Two market specific SM-centred CDJ models** - the study enabled the construction of the SM-centred CDJ models of the two customer groups. The academic model was criticised to be over-generalised, while the McKinsey model does not include sector and customer segmentation specific information (Bray, 2008). Therefore, the mapping of different CDJ's of 2 segments of customers in the diaper products sector contributed valuable knowledge to the literature. It provided valuable information for the future establishment of generalised models.

**(3) Academic and managerial suggestions to address challenges brought about by SM-centred CDJ from the FEI perspective** - the study significantly confirmed the need, appropriateness and effectiveness for business to address changes caused by the SM-centred CDJ phenomenon from the FEI perspective. Based on the observation in literature reviews, the discussions of SM-centred CDJ in business context are concentrated in its implications on rear-end activities. Merely a small group of studies investigated the topic from the FEI perspective. Therefore, this study significantly contributed new knowledge to the literature, while opened new perspectives for future research. It also provided managerial suggestions for fast-moving consumer goods (FMCG) businesses and nudged them to tackle challenges caused by SM through enhancing their FEI activities.

**(4) Academic findings and managerial implications of involving SM in FEI-focused customer research activities** - the study suggested new data, research space and customer research methods originated from the SM-centred CDJ phenomenon. These are new opportunities for businesses to enhance their FEI practices, though accompanied by challenges that merit thoughtful consideration. The study provided a series of learnings and recommendations of how companies can utilise SM as a customer data source or customer research platforms to obtain insights about customer needs through SM text-mining, online observation, and potentially SM co-creation (see Section 5.3.2). It provided a practical guideline for industrial practitioners, while proposed new research opportunities. From the academic perspective, the few existing studies that are grounded in the FEI angle mainly focused on one specific research method (like SM co-creation) rather than adopting a comprehensive view that target at FEI-focused customer researcher as one topic area. Therefore, this research a more systematic understanding to the theory.

**(5) Knowledge of facilitating customer research with visual-based research (VBR) tools** - the study also particularly identified findings of how VBR tools can facilitate data collection and analysis in FEI-focused customer research activities (see more details in Section 4.2.1[c] and 5.3.2[e]). The VBR tools can enhance the comprehensiveness, efficiency and structure of data collection, while ease and increase the robustness of data analysis. They can also facilitate customers to provide adequate answers by presenting visual stimuli. As the VBR tools designed for and implemented in this study were in a digitizable format, it provided a foundation for future adoption in online customer researches. Findings about VBR tools gained in this study filled in the gap of knowledge, as existing investigation about VBR tools are concentrated on the application of them for product ideation instead of customer research. These findings both contributed new academic

knowledge, as it is a rarely studied area, and provided practical guidance for FMCG companies.

**(6) *The documentation of a real-life business case in an emerging research field*** - finally, the research was embedded in a contemporary business project that targeted at confronting the challenges brought by the newly occurred SM-centred CDJ phenomenon. As the research domain is nascent and few industrial observations have been documented, this study added valuable empirical knowledge with both academic and practical recommendations.

## **6.4 Limitations and Future Research**

Despite the innovativeness, thoroughness and uniqueness of the research outcomes, the research is aware about the limitations. The readers are reminded to interpret, discuss, and adopt the findings with prudence.

As mentioned in the Chapter 3 Methodology, due to resource restrictions, the collaborators who were responsible to crawl data for either round of the SM text-mining study had limitations. As a result, the first round of text-mining could not collect segmented data, data from online forums, or to cluster keywords, while the second round could not be conducted in China. The first learning is to build longer preparation time or budget for the text-mining studies in the research plan, as choosing technologies and partners is not simple. Also, researchers interested in researching about how SM text-mining can be adopted as a customer research method to assist businesses FEI efforts should keep themselves up-to-date about the newest technology and adopters. This study faced limitations, as the technologies was under developed and was not widely adopted in the industry. However, it is evolving in an exponential pace. Another significant learning is that careful records, pursuit and analysis of findings of the execution of text-mining studies can provide valuable knowledge, no matter whether the studies were executed perfectly or not. It is especially true when the field of investigation is at the preliminary stage. The analysis of the findings in this study yield innovative and inspiring knowledge for how businesses' FEI-focused customer research activities can be benefit from SM text-mining.

Secondly, originated from both the lack of resource and existing knowledge. There was not established academic findings about Chinese diaper customers' SM media usage behaviour and product needs. Time and budget also did not allow the researcher to conduct a comprehensive exploratory study to obtain findings. Therefore, the workaround was to

adopt the existing market research information from Firm A. Although the information was not derived from academic study, they were sufficiently valid to support a market leading brand to make strategic business decisions. The researcher kept this limitation in mind and adopted the data in a critical way. For example, when using the existing information of product characteristics (technical benefits and product features) to stimulate customers to respond about their needs, the research always prompted them to think about alternatives. The researcher also always requested the participants to explain the rationale behind their answers, which helped to reduce the possibility for the customers to be led by the stimuli (Portugal, 2013). The findings from this study also proved the validity of the adoption of these market research data. It facilitated the discovery of findings without restricting it, as the true answers of target customers' SM usage with details, and true answers of customer needs including a significant alternative of the existing product characteristics were identified.

The third limitation was not originated from the operation of the study, but the actual occurrence in the case. In the study, utilising SM as a research space to conduct customer research was not executed. Therefore, the suggestion of SM as a new FEI-focused customer research space remained as an indicative finding with the absence of factual evidences.

Fourthly, as technology and SM environment are expeditiously shifting (Kaplan and Haenlein, 2010), FEI professionals and academic researchers are obligated to constantly update their knowledge, capabilities and vision. For example, 1 years after the completion of the empirical study of this research, a text mining advance that can automatically detect product features from online customer reviews and categories them into the 5-item KANO model was developed and published (Qi, et al., 2016). Combining the product design helpfulness criteria proposed by Liu et al. (2013) and the KANO model (Kano, et al., 1984), Qi et al (2016) successfully identified must-have, one-dimensional, and attractive features of a mobile product from consumer reviews on a leading Chinese e-commerce site. It can be viewed as an automated FEI process enabled by the advancement in computing technology. Researchers who are unaware of these new developments would miss the opportunities to conduct such novel studies.

Finally, although the discussions of findings introduced certain existing theoretical frameworks to explain and conceptualise the observed phenomena, this research is principally explorative, while the demonstration of phenomena is primarily descriptive. Fellow researchers may draw on various theoretical propositions to further explain and conceptualise the findings. They can also test the findings, the proposed CDJ models and



the framework of involving SM-centred CDJ in FEI focused customer research activities in other scenarios. These actions can enhance the rationalisation, generalisation, and validation of knowledge and contribute to the theory.

## **6.6 Conclusions**

This study yielded original and novel findings of how SM impacts CDJ and how the SM-centred CDJ can affect customer research activities in FEI. It added detailed and in-depth empirical findings about how customers make purchase decisions under the influences of SM and proposed specific and contemporary customer groups' SM-centred CDJ models. It also confirmed the effectiveness of addressing the SM-centred CDJ phenomenon from the FEI perspective for businesses. It identified serious learnings of how customer research activities can benefit from the SM-centre CDJ. To conclude, this research successfully filled knowledge gap the provision of detailed insights of new phenomena, the creation of new combination of theoretical frameworks, and proposing new conceptualisation based on the triangulation of literature reviews and empirical investigation. In addition, these new insights, theoretical assembly, conceptualisation provide further research opportunities for fellow researchers and practical advices for FEI professionals. It suggested further in-depth investigation of SM-driven or SM-centred CDJ in different contexts and the generalised conceptualisation. It also called for more researchers to investigate how can businesses' customer research activities in FEI can benefit from leveraging different SM research methods in different sectors.

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## APPENDICES

### A: Analysis and learnings of the FEI focused customer research methods: SM text-mining and offline focus groups

SM-centred customer research methods	SM Text-mining studies	Face-to-face Focus Groups
<b>Findings presented in</b>	Section 4.1	Section 4.2.1
<b>Data sources</b>	Existing customer generated product reviews on e-commerce sites and online parenting forums	Recruited customers' responses to design tools and interview questions
<b>Data sources navigation</b>	According to Firm A's existing market data, which were validated in focus groups by customers	Customer recruitment according to segmentation criteria
<b>Data collection approaches</b>	Through text mining technology built upon various types of algorithms	Through (1) requesting customers to fill in research tools by writing, drawing, or sticking stickers, (2) requesting customers to answer to interview questions verbally, (3) transcribing interviews, (4) observing customers' behaviour with field notes taking, and (5) photographing
<b>Data types</b>	Textual data	Textual, image, and verbal data and researchers' personal empathy



<b>Involving direct communication with customers or not</b>	Does not involve	Involve
<b>Approaches of customer engagement</b>	Does not require	Financial rewards; focus groups facilitation
<b>Data volumes</b>	The first round: 394077 words and phrases collected, resulted in 1380 keywords;  The Second round: 688946 words from 737 pages of product reviews collected, resulted in 5308 keywords, 1002 collocates, and 520 concordances	108 pages of completed research tools, 186 A4 pages of focus groups transcripts, 14 A4 pages of notes and more than 60 photographs.
<b>Depth of insights</b>	Overviews of customers' preferences, issues, needs, motivations, and perceptions from the extracts of customers' unilateral textual statements	In-depth understandings of customers' preferences, issues, needs, motivations, and perceptions through collecting written responses from, direct conversations with and observations of customers' behaviours
<b>Insights about customers' anticipated scenario after product usage (product effects)</b>	Yes	Yes
<b>Insights about customers' anticipated product performances</b>	Yes	Yes
<b>Incremental or radical innovation insights</b>	Incremental (significantly determined by the NPD approach of the product producer)	Incremental (significantly determined by the NPD approach of the product producer)

<b>Functional or emotional insights</b>	The first round: functional The second round: functional & emotional	Functional & emotional
<b>Data volumes</b>	The first round: 394077 words and phrases collected, resulted in 1380 keywords; The Second round: 688946 words from 737 pages of product reviews collected, resulted in 5308 keywords, 1002 collocates, and 520 concordances	108 pages of completed research tools, 186 A4 pages of focus groups transcripts, 14 A4 pages of notes and more than 60 photographs.
<b>Depth of insights</b>	Overviews of customers' preferences, issues, needs, motivations, and perceptions from the extracts of customers' unilateral textual statements	In-depth understandings of customers' preferences, issues, needs, motivations, and perceptions through collecting written responses from, direct conversations with and observations of customers' behaviours
<b>Insights about customers' anticipated scenario after product usage (product effects)</b>	Yes	Yes
<b>Insights about customers' anticipated product performances</b>	Yes	Yes
<b>Incremental or radical innovation insights</b>	Incremental (significantly determined by the NPD approach of the product producer)	Incremental (significantly determined by the NPD approach of the product producer)
<b>Functional or emotional insights</b>	The first round: functional The second round: functional & emotional	Functional & emotional

<b>Targeted or general insights</b>	The first round: general The second round: targeted	Targeted
<b>Generic or context specific insights</b>	The first round: generic The second round: generic or context-specific, depending on the nature of the existing customer product reviews on SM	Generic or context-specific, depending on questions asked to the customers
<b>Ranges of customers involved</b>	The first round: nationwide in China, all types of customers The second round: nationwide in the UK, all types of customers	36 customers in 2 target groups (Mum 1 and Mum 2) from Beijing, China (only including the main study)
<b>Technology demand</b>	(1) Capabilities to apply text-mining techniques to collect data from SM; (2) capabilities to develop or upgrade algorithms to enhance SM text-mining	No particular technology demand. If future digitisation of the VBR tools are required, programming and UX/UI design techniques are likely to be required.
<b>Financial demand</b>	Financial investment focused on text-mining technology development and application. No cost in business trips, customer recruitment, or research space rental.	High cost in research design, research management, research execution, customer recruitment, customer incentives, room rental, and business trip.
<b>Human resource demand</b>	The first round: 1 customer researcher & 1 data science specialist The second round: 1 customer researcher & 1 data science specialist	2 customer researchers / facilitators / translator, 1 workshop organiser, 1 transcriber, 1 driver

<b>Time consumptions</b>	<p>The first round: 7 days of data collection + 5 days of data analysis;</p> <p>The second round: 8 days of data collection + 5 days of data analysis;</p>	3 days of data collection comprised of 6 2-hour focus groups sessions with ongoing data analysis + 14 extra days of data analysis
<b>Ethical considerations</b>	<p>(1) Acquired consents from the SM sites according to legal requirement; (2) obeying Terms &amp; Conditions of the SM sites; (3) no legal consents acquired from customers; (4) disguised any personal information of the customers during data analysis and results presentation</p>	<p>(1) Acquired consents from participants during recruitment; (2) disguised any personal information of the customers during data analysis and results presentation</p>
<b>Outcomes</b>	<p>(1) Aligned customers' needs to products' technical benefits</p> <p>(2) Identified significant product requirements of customers; (3) Identified the gaps between customers' and the business's uses of languages in the description of product performance and features (4) Established experiences, knowledge and capabilities in leveraging existing customer information on SM through SM text-mining</p> <p>(5) Defined the advantages and disadvantages of text-mining, which contributed to the establishment of SM-driven customer research design criteria</p>	<p>(1) Identified incremental and product innovation insights that contributed to a successful new product concept; (2) Tested tools that can be potentially digitised for online focus groups or co-creation studies; (3) Tested and validated the effectiveness of gaining customer insights through studying customers' product experiment behaviour</p>

**B Sample transcripts of the focus groups main studies (Focus groups session 1 with “Mum 2” customers)**

**宝宝妈妈座谈会**

**时间:** 2014 年 06 月 24 日 13: 30-15: 30

**地点:** [REDACTED]

**与会者资料:**

主持人: [REDACTED]

Mum 2a01: [REDACTED]

Mum 2a02: [REDACTED]

Mum 2a03: [REDACTED]

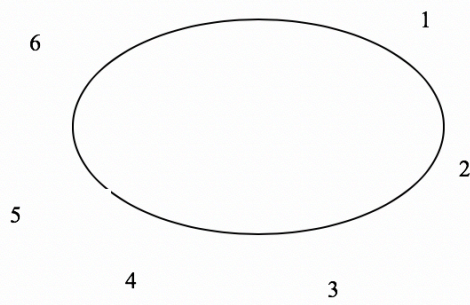
Mum 2a04: [REDACTED]

Mum 2a05: [REDACTED]

Mum 2a06: [REDACTED]

**座位图示:**

主持人



The diagram illustrates a circular seating arrangement for a focus group session. At the top of the circle is the host, labeled '主持人'. Six participants are seated around the circle, numbered 1 through 6 in a clockwise direction starting from the top right. The numbers are placed outside the circle near their respective seating positions.

#### 会议内容:

主持人: 大家好,我是这次的活动总监,我叫[REDACTED],等下我会开始之后我会大家一起说一下,具体是干什么,大家都知道了,第一个活动就是让大家先触摸,谢谢大家来参加我们今天的这个活动,我们今天这个活动主要是想了解一下对这几个品牌的产品性能的理解,以及大家对购买前在家里做功课的一些习惯,具体分两个主要的部分,第一个就是让大家手上会拿到这些贴纸,然后大家看到手上的这个表格,然后每个贴纸,每个星星代表着产品的性能,然后圆点代表的是产品特点,一个星星有不同的颜色,不同的颜色代表不同产品性能,然后这个让大家每个人手上拿到一个纸尿裤,去触摸去观察,然后也可能想一想,自己是看纸尿裤的哪一个部位,意识到哪一个产品可能,然后把这样同样星星或者是圆点贴这个图片相应的部位,然后在后面大空格处,具体指的是是以下,就是为什么,自己去从这个部位意识到了,这是什么部位就比较得解释一下,然后每个星星旁边也可以标上一些数字,比如说你觉得透气,可以从不同的部位意识到,然后在哪个,不同的部位标上不同的号码,然后解释的时候就可以根据相应的号码来解释一下,为什么是这样意识到了,然后我们手上会有三张表格,然后每张表格是对应的是不同品牌,然后我先跟大家发纸尿裤,每个人会发到一个,然后请大家在相应的品牌的表格上,回答问题,然后这两个是好奇的,所以就请你先从好奇开始,这个是妙而舒的,大家不用想自己的,就是印象,根据自己手上的这个产品来回答问题,然后根据自己之前对产品印象来回答,然后每一张表格会给大家 10 分钟时间,然后请大家先尽量独立完成,先不要讨论。

Mum 2a04: 现在贴还是?

主持人: 先贴,有任何问题就马上可以提出来,我都可以解释,你贴在纸尿裤上,你觉得纸尿裤的哪一个部位让你认识到,然后有用星星标注一下号码,然后在后面具体解释一下,是怎么样意识到的,具体是哪个部位。

Mum 2a02: 这小圆点是什么意思。

主持人: 圆点是讲这些产品特点,比如说表面、材料,你就看上去好不好看,会上让你觉得它看上去好看嘛,然后设计特点就是,你觉得这个产品最特别的地方在哪,让你觉得跟别的地方不一样。

主持人 2: 你们在问卷上面要写上自己的名字。

Mum 2a01: 我想问一下,这个填哪?

主持人: 你觉得哪里让你想到了,就是关于你们的想法。

主持人: 跟大家解释一下,我们这个照片是自己的做研究用的,不会有任何的公布的,还有两分钟,还有最后一分钟。大家差不多完成了,就交换一下。

主持人 2: 跟你旁边的人交换一下。

主持人: 然后翻到相应的这个品牌,还有三分钟,大家可以特别诚实的写出自己的想法,好的不好的都可以写,有任何想法都可以写出来。

主持人 2: 无论是好的不好的都可以写出来。

主持人: 还有最后一分钟,大家如果想在产品间做一下比较也可以写上,觉得第一个最好,第一个没有第一个好,可以写,没有完成报表的稍微抓紧一下,还有两分钟的时间,最后一分钟,大家如果都完成的话,示意我一下,给大家最后 30 秒,大家得完成了吗,我们进行下一个环节,下一个环节是一个小组讨论,需要记录一下各位的一些个人信息,大家会一个一个说,您年龄?

Mum 2a01: 25 岁。

主持人: 这些信息我们都不会泄漏,只是我们做研究的过程中使用,你有几个孩子?



Mum 2a01: 一个。

**主持人: 现在孩子多大?**

Mum 2a01: 21 个月。

**主持人: 家是一般是谁照顾孩子?**

Mum 2a01: 一般我。

**主持人: 然后孩子的性别?**

Mum 2a01: 女孩。

**主持人: Mum 2a02。**

Mum 2a02: 我 30 周岁、孩子 19 个月, 也是女孩, 然后照顾孩子也是我。

**主持人: Mum 2a03。**

Mum 2a03: 我 28 岁, 孩子 14 个月, 女孩。

**主持人: 一般谁照顾孩子?**

Mum 2a03: 我多一些。

**主持人: Mum 2a04。**

Mum 2a04: 27 岁, 男孩, 也是我照顾孩子。

**主持人: 孩子多大?**

Mum 2a04: 9 个月。

Mum 2a05: Mum 2a05、23 岁, 孩子 10 个月, 平常姥姥照顾孩子多一些。

**主持人: 孩子的性别?**

Mum 2a05: 男孩。

Mum 2a06: 32 岁, 孩子 23 个月, 一般是我照顾孩子, 男孩。

**主持人: 都是高层、大家都是一个孩子, 因为时间关系我们先开始, 先问这个问题, 我想问一下大家会怎么形象的表达透气、触感、吸水和气味这四项产品性能, 就是说你会觉得用动画、或者是用图象, 是在产品本身, 还是在包装上, 表示你们会觉得比较容易理解, 先从透气开始, 大家会觉得用什么样的方式来表现呢, 会容易理解。**

Mum 2a06: 包装上吧。

**主持人: 包装上用图象还是文字?**

Mum 2a02: 我记得这个, 透气这个, 我觉得可能是日本有一个广告上面是。

Mum 2a05: 有一个下云朵。

Mum 2a02: 对, 小气体似的那个感觉, 那个感觉特别形象。

**主持人: 还有别的想法吗? 除了包装。**

Mum 2a04: 广告。

**主持人: 广告也会有, 是电视广告还是?**

Mum 2a04: 电视广告。

**主持人: 是因为你觉得它是动画里的。**

Mum 2a04: 它就是跟实验似的, 就是两杯热水放在上面。

**主持人: 还有别的想法吗?**

Mum 2a01: 这个标出来, 你像这个, 各种形象的。

Mum 2a06: 我觉得好奇的那个吧。

Mum 2a02: 对, 那个给人感觉特透气。

Mum 2a01: 而且那个一就特别舒服。

Mum 2a06: 摸着也舒服。

**主持人：还有别的想法吗？别的形势，比如说你们网上查这些产品信息的时候，一般会读文字比较多，还是看图片、还是说找一些实验？**

Mum 2a01：做实验吧。

Mum 2a04：图片实验多一些。

Mum 2a02：标题有时候我也会看，因为当时来日本花王的时候，它那个第一句话就是三倍透气，我就的这句话特别吸引我。

**主持人：谁还说一下，说下一个，下一个是触感觉，也是同样的问题，比如怎么样的表现，你会觉得比较好的形象？**

Mum 2a03：这个一般都是摸的。

Mum 2a05：摸的比较有手感。

Mum 2a06：小孩穿上，觉得它，比如说动态，活动很自立、很自如，那种感觉，感觉挺好。

Mum 2a04：广告里把那个小孩放到棉花，好多棉花堆里那个，感觉那特软。

**主持人：你们觉得看到这些广告会相信吗，还是自己会去找一些别的信息去证实？**

Mum 2a02：可能会，比如说这个牌子我没用过，口碑吧，口口相传那种。

Mum 2a03：周边用过的朋友。

**主持人：还有别的想法吗，比如说在商店里或者是？**

Mum 2a02：现在有的小气娃娃，展示装的那种，可以摸一摸、看一看。

**主持人：有什么方式，看过比较特别难理解的？**

Mum 2a03：没有。

Mum 2a05：都挺好的。

**主持人：吸水。**

Mum 2a02：这个一定是实验的。

**主持人：实验，你自己在家里会做实验吗？**

Mum 2a04：会。

Mum 2a05：刚开始会。

Mum 2a02：一般品牌选择完了之后，自己对这个品牌不会有太大的印象。

**主持人：大家都是这样吗？**

Mum 2a04：对。

Mum 2a02：朋友介绍也很重要，因为她用完之后，她会把她的那些感受讲给你听，有可能你也会看她，她那个宝贝用完之后那个尿不湿确实真的很细腻，而且尿完之后他屁股是不是真的很干净，它有的就是吸尿很强，但是它干爽性就差一点，这一点其实也很重要，吸尿强，但是它干爽性没那么强。

**主持人：有别的方式吗，你们觉得做实验是最可信的，还是图片还是什么？**

Mum 2a02：实验最直观。

**主持人：直观。**

**主持人 2：你们还记得你们当时做的是什实验吗？**

Mum 2a05：拿紫药水对点凉水，然后浇在纸尿裤上，它就松松的，全是展平了它都全部吸了，它整个纸尿裤就全都变成紫色了，这样的话就比较好，如果要是保留不好，那就说明不好。

**主持人：别的妈妈也有做过别的实验吗？**

Mum 2a02：我们都看别人做实验了。

Mum 2a01：拿这个帮宝适跟妈咪宝贝做的了一个实验，就是帮宝适的倒一下水，就几十秒钟以后，这个表面是干的，别的稍微差一点。



Mum 2a02: 我记得原来有一个论坛上, 超强爸爸, 他给他家宝贝几乎把所有品牌都试了一遍, 然后把每个品牌的优缺点全都说出来, 然后我只要去借鉴就行了, 我不用去实验了, 我去借鉴, 比如说我选择了好奇, 他说好奇哪好, 哪不好, 然后我就看它是不是确实是这样, 如果是这样, 我就更注重另外一个功能的时候, 我就看它那个表上面, 哪的功能更强点, 我就去照他那表去选。

**主持人: 所以大家也会去看这种, 比较靠辅的推进。**

Mum 2a02: 对, 我觉得那个当时特别火, 因为那是一个爸爸做的一个实验, 当时好多妈妈受益匪浅。

**主持人 2: 为什么爸爸会给你这种特别反映?**

Mum 2a02: 不是, 因为男人能做这个事情, 说明他是, 因为他出去附耳忧伤我就是这种之感觉, 如果一个男人可以去做这件事情, 我觉得他肯定会做的非常的专著, 专著性跟更强一点。

**主持人 2: 你当时是在哪个论坛上看到的?**

Mum 2a02: 这个真忘了, 这还是我家宝宝很小的时候, 我一次偶然看见的, 然后我特别喜欢那个帖子, 后来我记得那段时间我还给我周围朋友发了, 但是现在我已经找不到那个连接了。

**主持人: 那个叫什么、超级奶爸。**

Mum 2a02: 不是, 这个纸尿裤的一个叫什么, 对比还是叫什么, 反正意思很明确就是能让你感觉出来, 对比之后是个纸尿裤。

Mum 2a01: 还有一个论坛, 就是家常里短, 就是像这个纸尿裤的优点, 缺点好都它都给你标出来, 像什么帮宝适。

**主持人: 这个是网点还是?**

Mum 2a01: 就是家常里短。

Mum 2a02: 我看过这个网站。

**主持人: 是这个网站自己标的还是?**

Mum 2a01: 就是妈妈用完的之后的。

**主持人: 最后的一个是气味?**

Mum 2a02: 我个人觉得不太希望孩子用的尿不湿有气味。

Mum 2a01: 我刚才感觉那个好奇的。

Mum 2a02: 好奇的是有气味的。

Mum 2a01: 我觉得有点淡淡清香那种感觉, 那个其实挺好的。

**主持人: 那你觉得怎么样表现, 来让你觉得能相信这个有气味、不是有香味呢?**

Mum 2a04: 这得闻呀。

Mum 2a02: 这个如果更直观的就是, 它广告上面会说的话。

Mum 2a05: 它为什么会有香味呢?

Mum 2a01: 它肯定里边有些像芦荟什么的, 纸尿裤里面添加这个护肤的。

**主持人: 怎么让表现它添加护肤的成份呢?**

Mum 2a02: 香味一定是添加进去的, 永远记住这一点, 不管你是护肤品也好, 还是什么日用品也好, 只要有香味, 必须是添加进去的, 肯定是添加的, 因为是尿不湿这个东西, 不像说是食品, 那个玫瑰花的茶, 它那个玫瑰花是晒出来的, 它也玫瑰花的香味, 它一个只是一个棉花, 棉花是没有味道的, 所以它的香味, 在一个如果在宝宝的尿不湿上弄香味, 我就会联想到一个它用香味是不是为了去掩盖某种化学的味道, 或者是材料本身的味道, 这点让我非常感到恐怖的一点, 我很害怕, 它会掩盖某种味道而去制造这个香味。|

**主持人：那你觉得怎么表现有没有气味的这个特点，需要动画、还是需要实验呢，什么样的方式？**

Mum 2a02：广告吧。

Mum 2a01：那个是也是玩玩弄一些香气什么的。

Mum 2a02：这个广告，我觉得应该是。

Mum 2a04：最直观的。

Mum 2a02：最直观的就是广告，因为妈妈的没有任何气味，无气味无添加什么那些广告词。

Mum 2a01：就是广告，你像有的店它有这种展示的。

Mum 2a02：其实这些所有的归类，归到一类，其实最简单的一个方法就是试用装，免费赠送试用装，我当时我怀孩子之前，我就申请了好多试用装，然后等我家宝宝出生的时候，那时候看论坛呀，我不可能每个品牌都买一个大包放在家里，能申请的我就申请，能跟别人要的就别人要，我跟别的妈妈也要了，给我一两片，然后试一试，到最后我觉得这个可能更适合我的宝宝，不一定非得说每一个，因为每个人用的喜欢也不同，然后宝宝的皮肤也会有不同，不一定我用的好别人用的就好，别人用的好我用不好，所以我就试了好多牌子，后来就选了那么一两个。

**主持人：你试的时候是直接给宝宝用，还是用别的方法？**

Mum 2a02：我刚开始就是给宝宝用，其实挺残忍的。

Mum 2a05：如果红屁屁了怎么办。

Mum 2a02：有过，所以我觉得很对不起我家宝宝，我家宝宝时候的时候，在前几天的时候有过红屁屁，因为我中间，当时那个时候还没有好奇铂金装，那时候我就普通好奇，我忘了是哪个，好奇那时候过敏很严重，就是整个小屁屁全是小红点，非常内疚，所以那个之后，我在没用过好奇的东西。

Mum 2a05：还有两个月生的时候，就去买了两包花王，因为都有这个好，这个肯定没有问题，直接买回来用了，然后真的没有问题，就一直用这个。

Mum 2a02：花王其实是真的很好，我们家宝宝小的时候我全用花王，后来稍微大一点，我就用别的多了一点，因为小的时候他皮肤特别敏感，那个花王当时我自己用的感觉，就是相对的比较，过敏性，就是能预防够敏，反正它红屁屁的情况很少出现。

Mum 2a05：我家没出现过红屁屁。

**主持人：因为大家都说，用动画来表现气味比较形象，能不能在个我些想法，什么样的表现的东西。**

Mum 2a02：气味还是透气？

**主持人：气味，还有什么样的表现，就是气味。**

Mum 2a06：小孩可能闻见那个味，他就笑了。

Mum 2a02：她那个那是后面那个小白兔，花王那广告好像就是小白兔，那个小白兔一但闻到这个味道它会表情变的时候，说明这个味道非常不好，我就举一个不好的例子。

Mum 2a05：这个好象也是只有从反面说，如果正面的话，它真笑了，那是有闻吗。

Mum 2a02：对，我就觉得这个可能是一个反面的对比吧。

**主持人：那你们自己的想法，就是对气味会有？**

Mum 2a02：没有，他们太小了，还没有吧。

Mum 2a04：好像尿不湿它多少都有点吸附，它里面那颗粒的味道肯定得有。

Mum 2a05：但是闻不出来。



Mum 2a02: 反正有的时候买回来,我就先晾,晾一晾,但是我也会担心会有灰尘、或者细菌,这个也很担心,所以不敢晾长时候。

Mum 2a05: 但是我听说是假的花王真的不会有任何气味的,假的你一打开就会也一种刺鼻的味道。

Mum 2a02: 它真的花王指出的是必须是日本原装的,真是的是原装的,但是日本原装的它也会分产地,产地不一样也会不一样。

**主持人: 这些都是试过的吗?**

Mum 2a02: 我周围他有从日本直接给它带的,她带过两个版本的,然后就是不管薄厚,吸尿性还有什么,然后她说反正是大阪的好象比较好用,但是具体的我忘了是哪个比较好用。

Mum 2a06: 台湾版的就不行。

Mum 2a02: 它不算日本原装的呀,日本原装的分好多厂子,就像中国汽车,北京造的、上海造的,它虽然都现代,它北京有厂子、在上海有厂子,是这个意思。

Mum 2a06: 没关注过。

Mum 2a01: 花王就是上海的还有天津的。

**主持人: 你为什么据的花王好呢?**

Mum 2a02: 用完之后,很多方面都会比别人突出。

Mum 2a05: 最直观的就是,这个比方说兜了一兜尿,然后给孩子卸下来的时候,上面还很干爽。

Mum 2a02: 屁股绝对不会湿。

Mum 2a05: 那个湿不是黏黏的。

Mum 2a02: 花王其实,这是妙而舒,其实日本版肯能更明显,它这个弧度设计是非常好的,这个弧度设计之后,就是宝宝梆在上,也不会特别勒,但是又不侧漏,然后它这个地方是稍微有一点点窄的,这个地方它有一点窄有什么好处呢,尤其是宝宝躺着的时候,小的时候躺着的时候,它这个腿一夹,他们就会有一点那什么,然后这个地方如果太厚的话,就特别突出来,然后对他那个腿可能就会特别不方便,然后长大之后就涉及到一个走路的问题,反正这几个点吧,它那个吸尿功能不也挺好的,就是尿上上去一会儿功夫儿,就很快感觉,他屁屁不会湿,肯定不会湿。

Mum 2a06: 刚出生的时候,医院不是给的不就是好奇嘛,用的就不行,然后同学,同学她们就用花王,然后不过敏,现在也不用,花王、大王、掺着使,大王也不是,但要比花王便宜一点。

Mum 2a02: 花王抛但是宽。

**主持人: 谢谢大家,我们现在进行下一个环节,大家在购买的时候是怎么样做功课的,给大家分发这几个纸尿裤,大家拿到手上以后,大家解释一下怎么选,这个是这样的,大家看到手上有四类纸条,然后是对应论坛、电子商务、推荐、还有实验与测试,拿论坛来做例子,大家首先要勾选,比如说你现在使用的有哪些论坛,这单选,在一张纸条上面只勾一个论坛,然后回答下面的问题,都是根据您勾选的那个论坛,然后如果你在使用有多个论坛的话,就用别张纸条,每张纸条只写一个,四大类,然后每类都会有,这种它会有几个选项,这个就是看您现在在使用的有哪些渠道,就比如说论坛,如果你现在使用的有育儿网,那就先勾选育儿网,然后给回答,根据育儿网来回答下面的所有的问题,然后如果你现在在使用网站有多个,那就用多张纸条,因为每张纸条只回答其中一个论坛的问题。**

Mum 2a04: 这是从论坛上了解产品信息是吧。

**主持人：你们现在买纸尿裤之前，会在哪一个网站了解信息，然后如果有其它的话，请大家注明一下具体是一个网站。**

Mum 2a03：在哪写。

**主持人：就写它的下面，每一张纸条只对应一个网站，所有问题都是打勾就可以了。**

Mum 2a06：比如我这其它的，还选了一个我买网，和这个我已经都勾完了。

**主持人：如果大家还需要更多的纸条告诉我，我们观察了一下，就是大家对推荐的，打分是最高的，为什么推荐是最重要的，这是为了？**

Mum 2a01：别人实践过。

Mum 2a02：因为推进我们的一般都是很熟的朋友、或者是很要好的朋友。

Mum 2a01：她们肯定会自己用过，她才会这么说。

Mum 2a02：对，而且我能从那亲身感受到，我可以去看。

**主持人：有人选择网友，觉得网友也是特别可靠的吗？**

Mum 2a05：就是妈妈群的里的网友，不是身边朋友的，但是我们在一个群里聊，她们都用什么，哪个对孩子过，都有试过。

**主持人：你是怎么加入这个妈妈群的。**

Mum 2a05：论坛，就是学校的论坛，大家全在一个论坛里，有各种板块，其中就有一个轮版是我们妈妈们，然后那个板块就有一个版主来创建一个群。

**主持人：那比如说电子商务网站，包括在论坛上，你们看比较多的是大家个人发的贴，还是一些比较，一般的产品介绍。**

Mum 2a03：个人的。

Mum 2a02：论坛上个人发的帖子多一点，然后商务网站，就购物的那个网站，基本上就看产品信息，那个评价一般都很少的，我觉得那里面我只会看坏的评价，我不会看好的评价。

**主持人：大家都是这样，还是？**

Mum 2a02：我都是只看坏的，不看好的，好的好多都是造假的。

Mum 2a04：像我逛京东，我就看晒单的。

**主持人：大家在后面购买产品前会做实验吗？**

Mum 2a05：我是，我就觉得可能某些情况下，别人的说不一定准确吧，还是自己做一下，这是最直接的方法。

Mum 2a01：你去买的时候，你可以在那看一下，就坐那，看她做什么，就正好看一下。

**主持人：大家买纸尿裤比较的是通过什么购买，商店还是？**

Mum 2a04：网络。

Mum 2a01：网购。

M。为什么？

Mum 2a04：方便。

Mum 2a06：网络比实体店要便宜。

Mum 2a02：对，便宜不少钱呢。

**主持人：那在网店上买东西，因为我看到很多都写了，比如说妈妈在购买产品的时候做实验？**

Mum 2a02：那只能是实体店适合做实验。

**主持人：在实体店做实验。**

Mum 2a06：因为你像网络的那个，它也的也会也视频。

**主持人：视频。**



Mum 2a02: 有的有视频, 还有的有那种, 现在淘宝其实也有晒图。

Mum 2a01: 我不在淘宝上买。

Mum 2a02: 淘宝我只要在旗舰店买, 就是婴儿类的产品我只在旗舰店买。

**主持人: 您说的晒图是什么晒图?**

Mum 2a02: 评价的晒图。

Mum 2a03: 晒单。

Mum 2a02: 晒单, 就是用户的那种晒单, 然后她会写好不好, 有图片。

Mum 2a01: 我会在这个实体店, 先把这个东西看好了, 先看好了, 回家网上一搜。

Mum 2a06: 在京东, 我一般都选的是京东配送的。

Mum 2a02: 对, 我也是选京东配送, 京东配送或者是旗舰店, 现在京东加旗舰店了, 所有的产品都加旗舰店了。

Mum 2a06: 第三方送的会也假。

Mum 2a02: 对, 第三方送货, 我就买到过假的。

Mum 2a06: 而且还得付运费。

Mum 2a02: 运费不够好象不行。

Mum 2a06: 买到假的, 所以我就没有在第三买过。

Mum 2a04: 京东上买的花王有的有假的。

**主持人: 你们刚才说到在实体店的时候你们会做实验, 那实体店, 你们帮我们介绍一下, 在实体店你们看到什么样做过什么样的实验。**

Mum 2a01: 最普通的, 就是拿着尿不湿放在这, 像我的说的浇点水, 看拿一个吸水好什么的。

**主持人: 那是经常会遇到吗?**

Mum 2a01: 偶尔也是, 你逛大商场的时候, 它做促销的什么的。

Mum 2a02: 更常见的还有一种, 就是弄个假娃娃试穿。

**主持人: 试穿是吗?**

Mum 2a02: 对, 其实试穿也很重要, 你像这个刚才我们可能都看了, 这个就没有弹力腰围, 这个只有侧贴上面有一点点的弹力, 小孩其实用这种非常不舒服, 就像咱松紧带的裤子一样, 没有松紧带肯定掉, 有松紧带就不爱掉, 而且你像这个, 我就在实体店很明显就能见到, 如果是这样的我一般很少才买, 这个不是圆润的, 这个会扎到小孩尤其是小孩运动一段时间之后, 你别看它前面这个特别宽, 他运动一段时间这个就是起褶, 或者皱了, 然后它个就会暴露在外面, 这个边缘是很容易划伤小孩。

**主持人: 你说这个腰贴容易划伤小孩?**

Mum 2a02: 这个, 首先是这个容易划伤小孩, 然后其次它这个是圆角的(指着花王), 这个尖角(指着帮宝适), 你把这块2稍微动一块你就能摸到, 这有一个非常尖的角, 你看花王的, 所有的都是圆润的, 这个我家孩子就因为这个也被划过, 特别心疼, “尤其是小宝宝, 大一定的宝宝他相对的好一定, 他动时候, 白天还行, 咱们能看得见就给他弄了一下, 小宝宝他有的时候睡着了, 你又不肯碰他, 他皮肤又嫩, 一不小心就划伤了, 这些就是在实体店, 包括像这些侧边包的好不好, 或者是腰线高不高, 你在实体店那些假娃娃身上就能看见。

**主持人: 腰线是怎么判断的呢?**

Mum 2a02: 腰线这个很明显, 这两个长短, 这两个应该就有区别, 花王的长出一公分左右, 前后各长一公分, 前后各长一公分的话, 前面可能还相对好一点, 尤其是后面, 它躺下之后, 他那个尿是往后走的, 防止它尿, 就是往后屁股上面尿那种。

**主持人: 明白。**

Mum 2a05: 我觉得腰贴那块, 最重要还是用的时候, 因为比如说我家孩子, 他会走了, 他可能突然坐, 突然躺着, 他自己坐起来, 躺着的时候, 因为你穿纸尿裤, 基本上都是他躺着让你穿, 如果你松紧正好适合他躺着, 如果没有那个腰缝的话, 他坐起来之后, 就勒肚子了, 因为他躺着的时候肚子在下头。

Mum 2a02: 这个产品倒不是很重要, 反正我们几个人还在讨论, 没有这个, 很不方便的, 一般的妈妈都不会喜欢这个。

**主持人: 你说的平空、腰空是什么?**

Mum 2a02: 好奇的那个很明显, 花王的是在侧边, 但是我觉得弹力腰围是那个做的最好, 好奇那个好象是个粘裂好象。

**主持人: 这些信息大家在浏览网页都会关注吗?**

Mum 2a05: 对, 其实买的时候, 在电子商务网站, 根本就不会在关注这些了, 就是直接买, 不会看太多了, 但是买之前会做很多功课。

**主持人: 做功课就是有什么途径, 朋友推荐啊。**

Mum 2a05: 对。

**主持人: 我看大家普遍还是发帖子的频率并不多。**

Mum 2a02: 没时间。

Mum 2a05: 我倒发过一个, 就是我做的实验, 但是也没有人看, 倒是有一个妈妈评论了, 她说真有心啊, 就四个字, 然后就没有了。

Mum 2a04: 因为论坛上像这种精华体很多, 像什么对比的、做实验的, 然后集中品牌给你对比, 很多精华体, 就不需要你在发了。

Mum 2a02: 对, 更多是发是愿意分享在朋友圈里面, 然后周围的妈妈看见, 然后她会点赞, 给你评价, 那时候反而有成就感, 在论坛里面你几乎就石沉大海了, 没有反馈那种。

**主持人: 大家比如在看到什么精华体会分享给朋友圈。**

Mum 2a05: 有些会。

Mum 2a02: 有有些会, 不选择。

**主持人: 分享的话就是朋友圈。**

Mum 2a05: 微博、微信。

**主持人: 你们一般在微博、微信上, 比如说给你朋友们, 都关注什么样的话题呢?**

Mum 2a05: 大家更关注的是活动的话题, 比如说好奇。

Mum 2a02: 啊好奇有一段时间有一个点赞。

Mum 2a05: 好奇铂金, 我就抢了两包, 可兴奋了。

**主持人: 大家都喜欢也参加过。**

Mum 2a05: 对, 比方说论坛里那些妈妈不都是加一个 QQ 群嘛, 然后特地的, 一百多号人, 全都又新建了一个微信群, 就是为了点那个活动, 好奇铂金的活动, 大家帮我点, 帮我点, 都跟缝疯了似的, 在那点。

Mum 2a06: 好奇活动还挺多的。

Mum 2a02: 对, 好奇老有。

Mum 2a05: 经常给现金卷什么的。

**主持人: 觉得挺有吸引力。**

Mum 2a02: 对, 其实虽然我不喜欢好奇这个牌子, 但是我也觉得它这个活动确实也有。

Mum 2a06: 跟好奇比起来, 好奇更多。

Mum 2a02: 帮宝适的活动没有它大, 差好远。



Mum 2a06: 我是说的 L 号, 四片的。

Mum 2a02: 对, 有一个 L 号的搞过活动。

**主持人: 你说好奇活动很多, 除了那个点赞、送东西, 它还有别的什么活动吗?**

Mum 2a02: 杂志上面也有送。

Mum 2a05: 医院的旁边, 比如说在体验时候, 都会给一个小卡片, 然后就是还有好奇的试用装, 不知道你们收到没有, 就是那种红色的一个手提带, 我是在海扶生的, 我出来拿一个, 然后里面就都是好奇的、铂金的、还有精装的试用装。

Mum 2a02: 其实这个试用装能影响好多人, 因为它第一次试用如果这个牌子好, 就不在选了, 多简便, 我既然用了这个好, 我干嘛还去选别的。

**主持人: 大家一般会去选试用装途径是什么?**

Mum 2a02: 网站, 网站多一些。

Mum 2a05: 我收到好多那种硬塞给我的。

Mum 2a02: 还有杂志, 我和宝贝吧那个是, 我和宝贝里面有, 经常会有。

**主持人: 一般比较多的, 你们会去找试用装, 还是看到就会买?**

Mum 2a02: 如果真的对这个牌子有兴趣了解的话, 会直接去买, 如果不是的话, 就抱着试试看态度的话, 她给我就接受。

Mum 2a05: 还有就是母婴店有很多试用装, 就是去逛的时候, 尤其是看见大肚子的, 就像看见什么似的, 拉着你, 我们家这纸尿裤你试试吧挺好的, 给你准备两片, 那个也是我也给你两片。

Mum 2a02: 一这个, 我还想起来还有一个, 母婴展, 他们有超级超级夺得试用装, 就母婴展不管是纸尿裤什么的, 什么都有, 其实我上次去母婴展得时候, 我也领了一份帮宝适的那个试用装, 它是什么, 光就要是帮宝适搞的活动, 那个活动我觉得挺好的, 但是提前没说, 其实我都没太, 它用任何品牌的旧的包装袋去可以换一包试用装, 任何牌子。

Mum 2a05: 那试用装就几片是吗。

Mum 2a02: 几片, 但是你任何牌子得可以换, 这点非常吸引人, 比如像你就家里, 你现在有两包尿不湿, 你拆下两包, 就现换两包, 一个带子换一包, 然后有只有的就换了多的, 像我都不知道。

Mum 2a05: 谁还留着袋子呀, 本来孩子东西多的不行的, 都没地方。

Mum 2a02: 可是你要买的多, 你把那个袋子, 买回来装在纸体箱里面, 然后把袋子拿会去换。

**主持人: 它当时那个活动期限是多长?**

Mum 2a02: 那个展就三听。

**主持人: 三天。**

Mum 2a05: 宝贝这周末, 这周末又有展出了, 下周末, 7 月几号, 在国家体育场, 鸟巢边上。

Mum 2a02: 什么展。

Mum 2a05: 也是这个展。

**主持人: 之前像这些展会的形势、从拿获得的?**

Mum 2a02: 群里。

Mum 2a05: 有的网站上面, 你注册过手机号, 它会给你发信息。

Mum 2a06: 还有微信, 关注好奇, 关注帮宝适, 它也会告诉米。

**主持人: 所以你们也会关注业官方帐号。为什么?**

Mum 2a05: 因为现在微信, 需求就不一样了, 可能现在使用微信的人, 比 QQ、比微博更多一些了。

**主持人：你刚才说你发过一个帖子。**

Mum 2a02：宝宝树。

**主持人：当时是为什么想发这样的帖子？**

Mum 2a02：因为我本来就拍一些照片给那些妈妈们看，然后手机上也有照片，然后我每听都要看看宝宝树上，可能有些问题，孩子喂养问题什么的，然后就会看一些，看一些我就想着，那就发一个吧，然后那个时候还没休产假的时候，就发一个，然后我就把那个照片往网上一弄，然后就开始说了，就说了两句话，但是没什么人看我那帖子我感觉，浏览量也就几十个。

**主持人：你会回去查浏览量？**

Mum 2a05：不会查，因为你到下一次登录看的时候，你会看这个帖子浏览量很少，还没有微博的浏览量大呢。

**主持人：我刚才看到是张永娣，你是每天都会发一篇微博是吗，是电子商务还是？**

Mum 2a03：没有，我都不发，我看，我给划了。

**主持人：这个论坛也是吗？**

Mum 2a03：那个我选的，不是每天都看，是每天都看，但不是每天都发。

**主持人：那大概发的频率是？？**

Mum 2a03：一个月一次吧。

**主持人：大家会发什么样的帖子呢？**

Mum 2a03：就比如说现在夏天了嘛，比如说蚊子什么的，有什么小窍门什么的，比如我在哪看过，我就会发出去。

Mum 2a05：我有的时候在想，如果经常发帖的话，就成为一个那种高级用户了，以后可能会更加好呢，因为以后这个事会更加区域电子商务化了，所以我觉得是不是以后会有好处呢，比如说快递打车什么的，你成为越高级别的用户，以后能享受的那种优惠政策什么的是不是越高。

Mum 2a03：那发帖越多的话你等级就高，你等级要高，有活动就会找到你。

Mum 2a05：就是呀，所以我觉得那样有用。

Mum 2a02：积分兑换。

Mum 2a03：对。

Mum 2a04：回帖的时候就能积分。

**主持人：那 Mum 2a04，你看基本上很多时候都会做实验，比如说挑选产品的时候也说、购买产品、试用产品也说，你能跟大家介绍一下，你是做什么样的实验吗？**

Mum 2a04：就是茶水，倒在尿不湿上，买之前的时候做的，现在就不做了。

**主持人：现在就不做了，在什么之前会做，在什么时候会做呢？**

Mum 2a04：选品牌的时候，对比的时候、换品牌的时候。

**主持人：在什么时候会想要换品牌，是不和用还是？**

Mum 2a04：没有，比如说有可能这个，比如说好奇的那个，有可能网上就断货，比如 XL 比如就不好买，XXL 什么的，你需要换别的品牌的时候，就需要做，因为我只用过这个，我没用过别的，然后我就需要对比一下。

**主持人：大家普遍是什么时候开始做第一次的功课呢？**

Mum 2a05：生之前。

**主持人：生之前大概多久？**

Mum 2a05：二个月吧。

Mum 2a02：七个月开始吧，七八月那会儿吧，因为在往后，精力就跟不上了。



**主持人：你们刚开始做功课时候，比如说是小孩七八个月，还是你们怀孕七八个月？**

Mum 2a05：怀孕。

**主持人：那你们通过什么渠道去做功课呢，那个时候？**

Mum 2a04：有一个就是论坛。

Mum 2a05：还有妈妈课堂，去听孕妇课，我不知道别的医院，应该都有吧。

Mum 2a04：都有。

Mum 2a05：海扶是那样，就是办一张卡，就是可以去附近去听课。

Mum 2a01：我怀孕的时候自己去逛逛，逛母婴店什么的，把我们家宝宝以后用的产品，全都看一遍，要不就提前买点。

Mum 2a02：像她说的这个，我在生孩子之前也是这样的，我有一张卡片，是一代一代给我传下来的，她们从网上给我发展的一个 Word 文档，比如说这个姐姐在我前面生，她肯定传给她，她可能在我更前面一点点，然后她就进行修改然后传给我，我再经过修改传给下一个人，就是我们一个一个孕妇用的比较的东西都记录在上面，其实就像是一个待产包，然后生孩子时候需要什么东西，很详细，从头到尾，从孕妇的到小孩的，很详细，有好几张纸那么厚，然后尿不湿哪个牌子会比较好，哪个牌子不够好是因为什么原因，然后那指甲剪，她们告诉我你一定要买日康那小剪子指甲剪，为什么呢，因为那个夹的会夹到肉，而且小孩的指甲是特别软的，你就用小剪子好剪，它都会写的很详细。

**主持人：那你那个 Word 文档是从什么地方得到的？**

Mum 2a02：就是一个人一个人传过来的，我是从我一个姐姐那儿拿到的，她就是从哪个论坛上下的。就是我跟她关系特别好，她在我前面生及，因为我快生的时候肯定会跟这些有孩子的人，或者朋友会更近距离，我就会说，我快生了，我都不知道买什么东西，我都不知道要准备什么东西，然后她就说别着急，待会儿我给你发一个 Word 文档，其实这样的 Word 文档，我在之前我接到了三到四份，然后我也是集中了一下，然后采取了一些里面比较好的东西，这个是我非常感动的地方，因为她们都给我列的非常详细。宝宝树上也有这样的待产包，但是它那上面就是可能相对的，就是带产包，但是它没有写出哪个好、哪个不好，这个是我非常感动的地方，因为她们都给我列的非常详细。

**主持人：这么详细，而且可信。**

Mum 2a02：对，可信我觉得非常可信，就像尿不湿我当时听她们选的花王的，就没有过敏，过来我买的好奇的就过敏，小剪刀，他们说的那日康，就 9 快 9 毛钱，但是真的很好用，就剪指甲，不会伤到小孩手，然后还有一些吸奶器，温奶器什么的，她们都告诉我那些，你可以不用那么着急买，到时候如果没有奶的时候，在去各店买，现买现消毒就可以了，你买完之后，就是一个摆设，用不上，母乳喂养的话，母乳喂养的话，你温奶器，吸奶器是用不上的。

**主持人：那别的文档都是从什么地方得到的？**

Mum 2a02：我就都是朋友。或者就是 QQ 群啊微信群里发的，我就收藏下来。

**主持人：那你会把什么样的信息带放到文档里面呢？**

Mum 2a02：把我用的和的一些东西，然后我会添加上，她们添加很多意思的其实这个东西，因为可们这是一个圈子，我们这几个全都认识，我们会写上，比如说我家，一般怀孕的时候，一般都是老公去买这些对系，或者是我自己在网上买这种东西，然后就写这个是我老公买回来之后，我觉得很好用，所以我就把这个加上去了，它会写上我个人觉得这个什么什么好用，我老公去买了之后，我觉得很好，你一看名字就只有，这个是她添加的，就会有这样一个，越到后面可能会越详细。



**主持人：那你会用好奇的应经验、经历把它写上去吗？**

Mum 2a02：会呀。

**主持人：为什么？**

Mum 2a02：那个不好的，尤其是在推荐别人的时候，给们推荐这个东西明明很好，但是到被人用的时候会不好，所以我会把我用过的不好的东西都写在上面，比如说我家宝宝用好奇红屁屁，这个话我跟不只一个人说过，我说我不用“好奇，艰巨不用，人家说为什么，好奇最好了，我说不不对，这个可能跟小孩肤质有关系，我说我家宝宝一用“好奇就过敏，红点点，红屁屁，然后就我周边好多人都知道，她家不用好奇，好多人都知道这个。

**主持人：大家也是会喜欢用这种方式跟朋友或者网友推荐吗？是不是很愿意分享？**

Mum 2a02：对，很愿意分享。

**主持人：那一般分享的话都会在什么地方分享？分享给谁？**

Mum 2a02：一般就是微信或者 QQ 发给朋友比较多。比如我知道谁在我后面快生了啊，我就发一下。

**主持人：会不会也在论坛上发？比如宝宝树？**

Mum 2a02：那一般倒不会。

**主持人：为什么呢？**

Mum 2a02：这个的话就感觉还是比较想发给朋友。我知道她们快生了嘛，会需要这个，我就发给她们。

**主持人：还有别的什么，在怀孕期要做的功课？**

Mum 2a04：功课，主要就是做实验。

**主持人：七八个月的时候就开始做实验。**

Mum 2a04：就是买回来的时候就做实验。

**主持人：从什么时候开始买纸尿裤。**

Mum 2a04：纸尿裤就是七八个月在大点就出不去了。

Mum 2a02：因为八月有的人要抛的，基本上八月就开始抛了。

Mum 2a06：我家孩子是七月份出生的，在生之前我还是没准备纸尿裤，因为我想着，夏天带尿不湿会热，所以当时全使的是疳子（音），在一个医院不是给尿不湿嘛，我也没准备，没特意的去准备，因为那个也没有比较，说那个哪个牌子怎么样，然使的好奇，不怎么好，然后朋友有推荐。

**主持人：那别人怎么知道你好奇不好的呢？**

Mum 2a06：比如说，我生完了之后，然后人家孩子都是三个月、半年了什么的，然后你们家孩子使尿不湿过敏什么的，那是使，她们家也使花王，现在我给你推荐一个花王的你试试看，那个不过敏，不红屁股，然后就开始用了，也不错，然后等孩子大一点时候，会收到一些试用装，帮宝适 ABC，还有好奇，也有收到，但是好奇还是用的稍微少一点，比如出去玩一会儿，玩的两三个小时，那就带一会儿，现在大了也不会怎么样了。

**主持人：那别人给你看试用装，比如说帮宝适派试用装给你，你们是不是用它好就一直用它。**

Mum 2a06：因为我觉得帮宝适的东西吧掉毛。

Mum 2a02：对，她说的这个，就是这个是吗，这个其实外面这个，完全拉毛个，我一直比较发触，花王的这个就是全是拉毛，就是你用时间长，小孩穿裤子，一动一动，这上面全是球，拉的都是丝，然后我家宝宝有一段时间就天天坐在那就揪这个，揪完之后最可恶的他有时候他还放在嘴里尝尝，这是我很苦恼，后来有一段时间我也不用帮宝适，现在我们家孩子大了，

我后来又用了帮宝适，因为这个新对价格还是高一点，然后用这个，反正现在这种苦恼稍微好一点。

**主持人：你为什么从花王回到了帮宝适？**

Mum 2a02：便宜。

Mum 2a04：孩子大了，号大。

Mum 2a02：对，而且相对他皮肤不会那么娇嫩了，就是相对的可以降低一点点要求了。

Mum 2a05：我觉得两岁的时候是不是可以不用了。

Mum 2a02：是分孩子。

Mum 2a04：有的3岁还用呢。

Mum 2a03：分孩子，这个跟孩子有关系。

Mum 2a06：我家现在孩子就是，像白天不用，晚上用。

Mum 2a02：我们家宝宝现在会说尿尿，然后自己就去小马桶，也会说了。

**主持人：那大家提到，比如说好奇，但是不喜欢其中的某一类产品，还是就是说这个牌子就不考虑的。**

Mum 2a02：我觉得这是一种良循效益嘛，它只要有一个东西我用着没好，它这个纸尿裤整个牌子在我心目中的地位就是一下子下降。

Mum 2a05：那比方说好奇，它精装怎么样，它铂金装挺软的呀。

Mum 2a02：是呀，我就不会去尝试了呀，我就不去尝试了，我用的花王很好，我为什么要去用铂金装呢。

Mum 2a05：我不会这样，大家都用完铂金装，铂金装也挺好的，跟花王有的一拼，然后我也会选。

Mum 2a02：那我为什么要去拼一下呢，我现在用的这个又好、又不过敏，没有任何毛病，我干嘛去拼一下呢。

Mum 2a04：比如说它价格要便宜呢。

Mum 2a05：比花王稍微便宜一点。

Mum 2a02：便宜不了多少，那我不如选择帮宝适了呀，我为什么。

Mum 2a05：帮宝适便宜太多了。

Mum 2a02：对呀，它的那个相对来说，就是那个白金帮没有差太多，我在展会上买的白金帮超便宜。

**主持人：你说的哪个白金帮？**

Mum 2a02：就上面那个应该是吧。

**主持人：帮宝适是吗？**

Mum 2a02：对。

**主持人：你说白金帮买这个。**

Mum 2a02：对，展会上是二百多两包，然后又送了一个打印机。

**主持人：有谁会用过一个品牌的产品不好，然后使用同样品牌的别的产品。**

Mum 2a05：虽然我没用过几吧。

Mum 2a01：我用过这个绿的，白金帮的这个挺好用的。

Mum 2a05：我使好奇精装，当时试用装着感觉就那样吧，不是说好，但是也不是很次，然后后来有铂金的，我就用了一下铂金，然后还可以，跟花王差不了太多，因为我们家孩子的腿粗，所以还是用花王的，因为好奇的可能稍微的瘦一点，适合瘦长腿孩子

Mum 2a02：对，好奇的瘦、号小。



Mum 2a05: 所以我还是继续用花王的。

Mum 2a03: 我家孩子一直用好奇精装, 一直挺好用的。

**主持人: 当时开始用好奇是什么怎么开始的?**

Mum 2a03: 推荐的, 朋友推荐的。

Mum 2a05: 而且医院都是用好奇。

**主持人: 你们在医院都用好奇吗?**

Mum 2a05: 不是。

Mum 2a02: 自己带的。

**主持人: 你们医院大概是哪个?**

Mum 2a03: 好奇、就帮宝适吧。

Mum 2a02: 我们带产包里面没有尿不湿好象。

Mum 2a06: 全都是两片一小包的那种好奇。

**主持人: 就是你们三个是好奇是吗?**

Mum 2a05: 不是, 我应该是一个中包的吧。

**主持人: 中包的好奇。**

Mum 2a05: 对。

Mum 2a03: 大包。

**主持人: 大包的好奇, 你们在医院住吗, 就是它她给你发展的试用装是好奇嘛, 那你们从医院出来回家之后还继续用好奇吗?**

Mum 2a05: 还是用花王的吧, 她发完之后, 就之前护士给用两片是好奇的, 之后就换成花王的了, 反正我当时是包间嘛, 然后有客厅什么的全都有, 然后我就大包大包的全都带过去, 结果两天就走了, 然后大包大包在往会运, 就是把纸尿裤全都带回去。

**主持人: 所以你刚也用的好奇, 开始觉得花王好?**

Mum 2a05: 对。

**主持人: 那你呢?**

Mum 2a04: 我就是医院它带产包就是好奇, 后来是别送了一箱花王, 送了一箱, 然后就花王一段时间, 后来又换的好奇, 不是出铂金了嘛。

**主持人: 你后来用的一直是铂金?**

Mum 2a04: 对。

**主持人: 你们能回忆一下, 最近一次更换的产品, 有没有?**

Mum 2a05: 增添有, 没有更换。

**主持人: 就是更换时候是因为什么?**

Mum 2a02: 我那个时候是因为买花王的时候没活动, 价钱比较高, 然后后来, 之前用过两片试用装, 觉得还行, 比我想象的好, 因为我之前对帮宝适这个牌子不是感兴趣, 之前我全用的大王、花王、我全用这些, 后来我就想, 要不试试吧, 反正孩子也这么大了, 用的也不多, 一天才一两片, 我买个小包装试尝试, 我就买了一个小包装的试了一下, 还是挺好的, 后来那天我就去展会上, 又买了好多, 我觉得还不错, 比我想象的好很多。

**主持人: 你想象过帮宝适是什么样的?**

Mum 2a02: 因为我之前我没用过, 我有个朋友用的, 那个就是她说绿帮, 绿帮是网格的, 特别不舒服, 对小孩特别不好, 我一摸, 我说这个东西我坚决不给小孩用, 它那个网面, 其实它不是很柔软的网面, 它就像女人用的卫生巾, 那个叫什么, 干爽网面, 那个特别不舒服对孩子来说, 因为它太硬了。

**主持人：你是给孩子试过以后，觉得？**

Mum 2a02：朋友家有，我见过，我也摸过。

**主持人：就有那种感觉？**

Mum 2a02：对，然后后来那次我就是偶尔的，我忘了是怎么得到那时试用装了，然后就用了之后，我觉得这个干硬还挺好的，正好我一个朋友她也是用花王，她后来告诉我，她说你试试白金帮挺好的，我我对帮宝适这个牌子不怎么地，结果那天我拿了试用装之后，我觉得还挺好，正好有朋友推荐，我说那就用这个吧。

Mum 2a05：试用装还有那么大号的呀，给我的试用装全是 S、M 号。

Mum 2a02：L 号是最大，我没见过它的 XL 号，但我见过它的 L 号，因为我前两天刚拿的。

Mum 2a05：你们家孩子几岁？

Mum 2a02：4 岁。

Mum 2a05：还能穿 L 号，真羡慕，我是应该列加吧，因为我们在朝阳区新换了一个新房，就是大一点的，有孩子，要换就换大一点的，正好那边新开了一家丽家宝贝（音），然后进去逛了一下，因为它这样，它花王一包才 129，然后我就买了两包花王的，就想出去玩穿，然后店员带推荐易贝乐，还送了一个背的那种妈咪包，我是看了那个妈咪包了，于是我买了一包易贝乐，后来之后发现用完之后很湿，不好用。

Mum 2a02：其实很多时候母婴店推荐的都不好用，她们给我推荐了一个。

Mum 2a05：易贝乐还是挺贵的，比花王的贵呢，就考虑它还不错吧，我就买了。

Mum 2a02：我们家隔壁那个母婴店也是，我们那个什么呀，乐友给我推荐了一个，然后我觉得也不太好用，然后它当时也是说我们搞活动才这么便宜的什么着，后来我就不太相信推荐的。

Mum 2a05：它就是送个妈咪包。

Mum 2a02：对，就是这种东西，送个小玩具什么的。

Mum 2a05：比我们那种妈咪包高薪新潮一点感觉，那个就像小书包一样，然后就想得要一包，然后结帐的时候真是。

Mum 2a02：其实可以吉普林包，吉普林的包，超轻的。

Mum 2a05：我是买那车上配的一个妈咪包。

Mum 2a02：那种包其实做妈咪包出去的时候，特方便，两边也带兜，还能装。

**主持人：当才妈妈都说到了逛名店，就说刚才大家也分享了一个信息地，那么大家去名店的时候都会看什么呢？**

Mum 2a05：看什么？

Mum 2a01：什么都看。

Mum 2a02：比如说看纸尿裤什么的？

Mum 2a05：其实如果有活动的话，看到名店的，合适就买了，价格方面适合的话，如果要不合适经常我们就是网上买就方便一点，然后就是想着没事带孩子溜弯，就带孩子进去看看，就是有什么活动，过这有什么新的东西，但是孩子吃的全在母婴店买。

Mum 2a02：我老感觉母婴店的东西即使搞活动了，也赶不上，只能上网上的，网上的有时候搞活动之后送东西，又降价又送东西。

Mum 2a05：比如说花王、拉拉裤 129。

Mum 2a02：那个确实很好。

Mum 2a05：但是你在网上不一定能买到这东西。

Mum 2a02：网上我没买到过真假。



**主持人：你们在做功课的时候，比如说七八个月去母婴店都看什么？**

Mum 2a05：全套的。

Mum 2a02：小孩奶粉、沐浴乳、洗发膏。

**主持人：那如果只说纸尿裤呢？**

Mum 2a01：我感觉帮宝适这个牌子还行吧，打我怀孕一开始到现在，我觉得帮宝适都挺好的，用那个牌子也挺好的呀，它使的那个绿帮的孩子就不好，我就换了，就是往上升呗，一直就没换过牌子，反正一直就用这个，要不周围的妈妈的都用这个，感觉他们用的都挺好的。

Mum 2a02：对，我认为生之前，如果是纸尿裤的话，还是在于别人对我的介绍，朋友推荐，我觉得这个是很关键的一个。

Mum 2a01：因为都头一个，没什么经验。

Mum 2a02：我七八个月的时候，在我前面那家，刚生完她家，经常去她们家取经，看她怎么照顾孩子，怎么换尿不湿，用什么东西，湿纸巾、面巾纸，所有的东西我都在看，然后还需要买一些什么东西，所有的东西我都在学。

**主持人：大家都差不多。**

Mum 2a01：而且那会儿，大着肚子，人家的孩子特想抱，老向子抱。

Mum 2a02：对，还不敢抱。

Mum 2a01：反正大肚子也不方便。

Mum 2a02：只能摸小屁屁。

Mum 2a01：看着就可好的了，对，然后说起来，那会儿我怀孕才两三个月，我们家孩子，就是能用的东西，基本上见了就买，见了就买。

Mum 2a05：我什么东西都是在还没生完之前全买齐了。

Mum 2a02：我们都是在没生完之前就已经基本上买齐了。

**主持人：会不会有担心，比说买了之后不合适？**

Mum 2a01：会。

Mum 2a05：就是可以送给。

Mum 2a02：我当时就是这么想，我要买的不合适就送给下面生孩子的。

Mum 2a01：刚怀孕一开始是兴奋期。

Mum 2a02：对。

Mum 2a01：想让孩子以后穿上，看着就想买，看见就想买。

Mum 2a02：尤其是衣服。

Mum 2a01：对，尤其是衣服。

Mum 2a05：我觉得我怀孕的时候，买衣服还稍微克制一点，因为我婆婆说了，你什么都可以买，但是衣服不要买，因为你不知道孩子多大，你万一买新生儿穿的，你生出来巨大的怎么办，孩子特别大你怎么穿的上呀。

Mum 2a01：没有，它那个都大。

Mum 2a02：不会超出新生儿穿的，新生儿穿的只会大，不会小。

Mum 2a05：我觉得衣服有的真的小。

Mum 2a02：那除非买卡特，从国外直接买，那个号小，超瘦，只有卡特超瘦，其它牌子全是大号。

**主持人：大家都爱海淘吗？**

Mum 2a05：我喜欢海淘，我是海淘户，基本上全都是海淘的，童车都是海淘的。

**主持人：谁喜欢海淘？**

Mum 2a02: 邮费太贵了。

Mum 2a05: 大家可以拼单呀, 我有个拼单群, 大家如果觉得邮费不合算。

Mum 2a02: 拼单我老干, 但是我自己海淘我真不掏。

Mum 2a05: 但是我一直都是让别人帮我日掏, 带纸尿裤, 所以我想我自己也学学日掏吧, 但是它那个需要可能双币卡或者单币的, 像国内这种单币卡, 它可能双币, 所以只能有国外的朋友才可以买, 所以我那个群里有一个妈妈, 她就是移民, 移到日本了, 然后就让她帮忙, 帮大家买, 通过淘宝连接给我们发货的。

Mum 2a02: 其实我最想买的是奶粉, 我一直担心国内的。

Mum 2a05: 奶粉不要海淘吧, 我个人觉得。

Mum 2a02: 奶粉其实我一直喝的是国外的牌子, 但是我一直担心国内是假的。

**主持人: 今天就到这结束了, 然后非常感谢大家分享各种经验, 谢谢大家。**